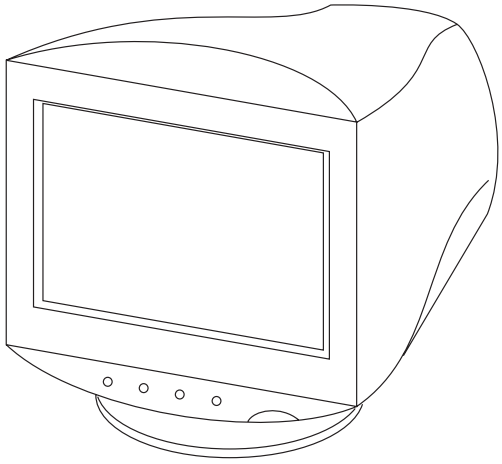
CPD-G420
[without LCC]

SERVICE MANUAL

N. Hemisphere Model

Chassis No. SCC-L33C-A



CR1 CHASSIS

SPECIFICATIONS

CRT	0.24 mm aperture grille pitch 19 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 365 × 274 mm (w/h) ($14^3/_8 \times 10^7/_8$ inches) 18.0" viewing image
Resolution	
Maximum	Horizontal: 1920 dots Vertical: 1440 lines
Recommended	Horizontal: 1280 dots Vertical: 1024 lines
Input signal levels	Video signal Analog RGB: 0.700 Vp-p (positive), 75 Ω SYNC signal H/V separate or composite sync: TTL 2 kΩ, Polarity free Sync on Green: 0.3 Vp-p (negative)
Standard image area	Approx. 352 × 264 mm (w/h) ($13^7/_8 \times 10^1/_2$ inches) or Approx. 330 × 264 mm (w/h) ($13 \times 10^1/_2$ inches)
Deflection frequency*	Horizontal: 30 to 110 kHz Vertical: 48 to 170 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Approx. 130 W (with no USB devices connected)
Dimensions	Approx. 451 × 471 × 461 mm (w/h/d) ($17^7/_8 \times 18^5/_8 \times 18^1/_4$ inches)
Mass	Approx. 25.5 kg (56 lb 3 oz)
Plug and Play	DDC2B/DDC2Bi, GTF**

* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.3 µsec.
- Vertical blanking width should be more than 450 µsec.

** If the input signal is Generalized Timing Formula (GTF) compliant, the GTF feature of the monitor will automatically provide an optimal image for the screen.

Design and specifications are subject to change without notice.

TRINITRON® COLOR COMPUTER DISPLAY

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

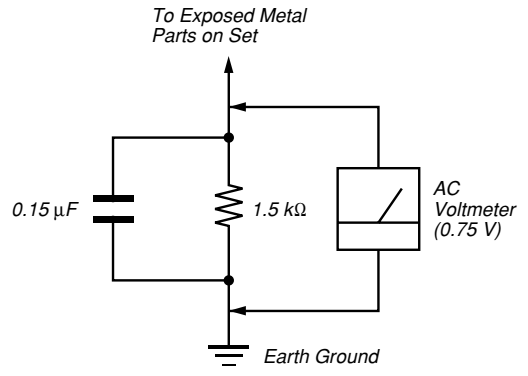


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!
NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!
NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

POWER SAVING FUNCTION

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If no signal is input to the monitor from your computer, the monitor will automatically reduce power consumption as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 135 W (CPD-G520) ≤ 130 W (CPD-G420)	green
active off** (deep sleep)***	≤ 3 W	orange
power off	Approx. 0 W	off

* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.

** When your computer enters power saving mode, the input signal is cut and NO SIGNAL appears on the screen before the monitor enters active off mode. After a few seconds, the monitor enters power saving mode.

*** "Deep sleep" is power saving mode defined by the Environmental Protection Agency.

DIAGNOSIS

Failre	Power LED
+B failure	Amber (0.5 sec) → Off (0.5 sec)
Horizontal / Vertical Deflection failure, Thermal protector	Amber (1.5 sec) → Off (0.5 sec)
ABL protector	Amber (0.5 sec) → Off (1.5 sec)
HV failure	Amber (0.25 sec) → Off (0.25 sec) → Amber (0.25 sec) → Off (1.25 sec)
Aging / Self Test	Amber (0.5 sec) → Off (0.5 sec) → Green (0.5 sec) → Off (0.5 sec)
Out of scan range	Green (OSD indication)

Aging Mode (Video Aging) : During Power Save, press MENU button for longer than 2 second.

Self Test (OSD Color Bar) : During Power Save, push up Control button for longer than 2 second.

Reliability Check Mode : During Power Save, push down Control button for longer than 2 second.

TIMING SPECIFICATION

MODE AT PRODUCTION	MODE 1	MODE 2	MODE 3
RESOLUTION	640 X 480	1280 X 1024	1600 X 1200
CLOCK	25.175 MHz	157.500 MHz	229.500 MHz
— HORIZONTAL —			
H-FREQ	31.469 kHz	91.146 kHz	106.250 kHz
	usec	usec	usec
H. TOTAL	31.778	10.971	9.412
H. BLK	6.356	2.844	2.440
H. FP	0.636	0.406	0.279
H. SYNC	3.813	1.016	0.837
H. BP	1.907	1.422	1.325
H. ACTIV	25.422	8.127	6.972
— VERTICAL —			
V. FREQ (HZ)	59.940 Hz	85.024 Hz	85.000 Hz
	lines	lines	lines
V. TOTAL	525	1072	1250
V. BLK	45	48	50
V. FP	10	1	1
V. SYNC	2	3	3
V. BP	33	44	46
V. ACTIV	480	1024	1200
— SYNC —			
INT(G)	NO	NO	NO
EXT (H/V) /POLARITY	YES N/N	YES P/P	YES P/P
EXT (CS) /POLARITY	NO	NO	NO
INT/NON INT	NON INT	NON INT	NON INT

2000.8.9 VER.

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The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

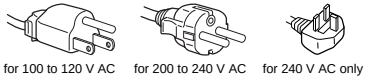
SECTION 1
GENERAL

Precautions

Warning on power connections

- Use the supplied power cord. If you use a different power cord, be sure that it is compatible with your local power supply.

Example of plug types



for 100 to 120 V AC | for 200 to 240 V AC | for 240 V AC only

- Before disconnecting the power cord, wait at least 30 seconds after turning off the power to allow the static electricity on the screen's surface to discharge.
- After the power is turned on, the screen is demagnetized (degaussed) for about a few seconds. This generates a strong magnetic field around the screen which may affect data stored on magnetic tapes and disks placed near the monitor. Be sure to keep magnetic recording equipment, tapes, and disks away from the monitor.

The equipment should be installed near an easily accessible outlet.

Installation

Do not install the monitor in the following places:

- on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies, etc.) that may block the ventilation holes
- near heat sources such as radiators or air ducts, or in a place subject to direct sunlight
- in a place subject to severe temperature changes
- in a place subject to mechanical vibration or shock
- on an unstable surface
- near equipment which generates magnetism, such as a transformer or high voltage power lines
- near or on an electrically charged metal surface

Maintenance

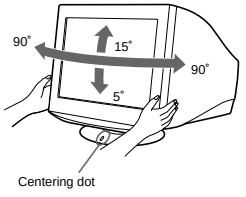
- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the screen's coating.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzene.

Transportation

When you transport this monitor for repair or shipment, use the original carton and packing materials.

Use of the tilt-swivel

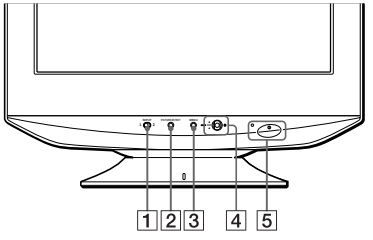
This monitor can be adjusted within the angles shown below. To find the center of the monitor's turning radius, align the center of the monitor's screen with the centering dot on the stand.
Hold the monitor at the bottom with both hands when you turn it horizontally or vertically. Be careful not to pinch your fingers at the back of the monitor when you tilt the monitor up vertically.



Identifying parts and controls

See the pages in parentheses for further details.

Front



1 INPUT (input) switch (page 9)
This switch selects the INPUT 1 (video input 1 connector: 1) or INPUT 2 (video input 2 connector: 2).

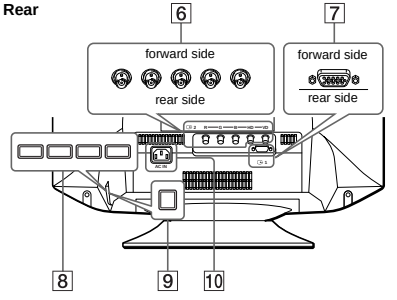
2 PICTURE EFFECT button (page 11)
This button is used to change the preset picture effects' modes.

3 MENU button (page 10)
This button is used to display or close the menu.

4 Control button (OK, ↑/↓) (page 11)
This button is used to make adjustments to the monitor and call up the CONTRAST menu directly.

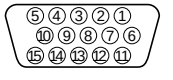
5 ⏻ (power) switch and indicator (pages 7, 18, 22)
This button turns the monitor on and off. The power indicator lights up in green when the monitor is turned on, and lights up in orange when the monitor is in power saving mode.

Rear



6 Video input 2 connector (BNC) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.

7 Video input 1 connector (HD15) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.



Pin No.	Signal
1	Red
2	Green (Sync on Green)
3	Blue
4	ID (Ground)
5	DDC Ground*
6	Red Ground
7	Green Ground
8	Blue Ground

Pin No.	Signal
9	DDC + 5V*
10	Ground
11	ID (Ground)
12	Bi-Directional Data (SDA)*
13	H. Sync
14	V. Sync
15	Data Clock (SCL)*

* DDC (Display Data Channel) is a standard of VESA.

8 USB (universal serial bus) downstream connectors (page 8)
Use these connectors to link USB peripheral devices to the monitor.

9 USB (universal serial bus) upstream connector (page 8)
Use this connector to link the monitor to a USB compliant computer.

10 AC IN connector (page 7)
This connector provides AC power to the monitor.

US

1-1

Setup

Before using your monitor, check that the following accessories are included in your carton:

- Power cord (1)
- HD15 video signal cable (1)
- USB cable (1)
- Exclusive Power Mac G3/G4 adapter (1)
- Warranty card (1)
- Notes on cleaning the screen's surface (1)
- This instruction manual (1)

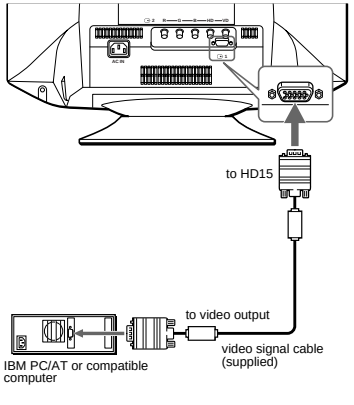
Step 1: Connect your monitor to your computer

Turn off the monitor and computer before connecting.

Notes

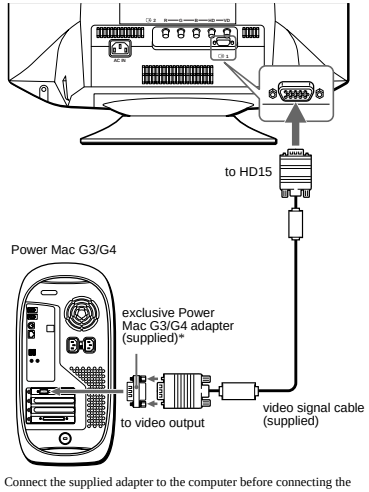
- Do not touch the pins of the video signal cable connector as this might bend the pins.
- When connecting the video signal cable, check the alignment of the HD15 connector. Do not force the connector in the wrong way or the pins might bend.

■ Connecting to an IBM PC/AT or compatible computer



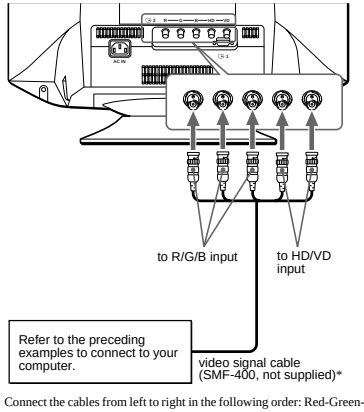
■ Connecting to a Macintosh or compatible computer

Use the supplied exclusive Power Mac G3/G4 adapter.



* Connect the supplied adapter to the computer before connecting the cable. This adapter is compatible only with Power Mac G3/G4 computers that have 3 rows of pins. If you connect to the other version of Macintosh series computer that has 2 rows of pins, you will need a different adapter (not supplied).

■ Connecting to the 5 BNC connectors



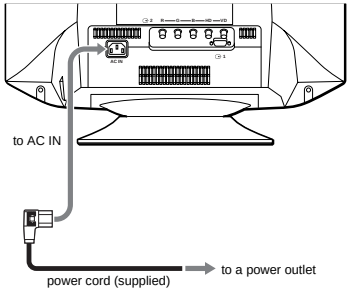
* Connect the cables from left to right in the following order: Red-Green-Blue-HD-VD.

Note

Plug & Play (DDC) does not apply to the 5 BNC connectors. If you want to use Plug & Play, connect your computer to the connector using the supplied video signal cable.

Step 2: Connect the power cord

With the monitor and computer switched off, first connect the power cord to the monitor, then connect it to a power outlet.



Step 3: Turn on the monitor and computer

First turn on the monitor, then turn on the computer.

The installation of your monitor is complete.
If necessary, use the monitor's controls to adjust the picture.

If no picture appears on your screen

- Check that the monitor is correctly connected to the computer.
- If NO SIGNAL appears on the screen, try changing the input signal (page 9), and confirm that your computer's graphics board is completely seated in the correct bus slot.
- If you are replacing an old monitor with this model and OUT OF SCAN RANGE appears on the screen, reconnect the old monitor. Then adjust the computer's graphics board so that the horizontal frequency is between 30 – 130 kHz (CPD-G520), 30 – 110 kHz (CPD-G420) and the vertical frequency is between 48 – 170 Hz.

For more information about the on-screen messages, see "Trouble symptoms and remedies" on page 20.

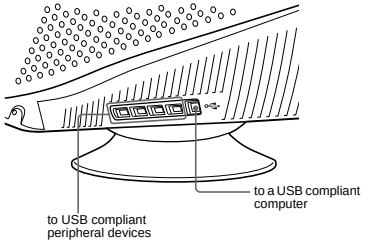
Setup on various OS (Operating System)

This monitor complies with the "DDC" Plug & Play standard and automatically detects all the monitor's information. No specific driver needs to be installed to the computer.
If you connect the monitor to your PC, and then boot your PC for the first time, the setup Wizard may be displayed on the screen. Click on "Next" several times according to the instructions from the Wizard until the Plug & Play Monitor is automatically selected so that you can use this monitor.

US

Connecting Universal Serial Bus (USB) compliant peripherals

Your monitor has one upstream and four downstream USB connectors. They provide a fast and easy way to connect USB compliant peripheral devices (such as keyboards, mice, printers and scanners) to your computer using a standardized USB cable. To use your monitor as a hub for your peripheral devices, connect the USBs as illustrated below.



1 Turn on the monitor and computer.

2 Connect your computer to the square upstream connector using the supplied USB cable.

For customers using Windows
If a message appears on your screen, follow the on-screen instructions and select Generic USB Hub as the default setting.

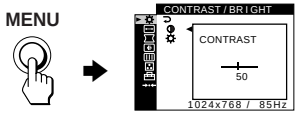
3 Connect your USB compliant peripheral devices to the rectangular downstream USB connectors.

Notes
- Not all computers and/or operating systems support USB configurations. Check your computer's instruction manual to see if you can connect USB devices.
- In most cases, USB driver software needs to be installed on the host computer. Refer to the peripheral device's instruction manual for further details.
- The monitor functions as a USB hub as long as the monitor is either "on" or in power saving mode.
- If you connect a keyboard or mouse to the USB connectors and then boot your computer for the first time, the peripheral devices may not function. First connect the keyboard and mouse directly to the computer and set up the USB compliant devices. Then connect them to this monitor.

Selecting the on-screen menu language (LANGUAGE)

English, French, German, Spanish, Italian, Dutch, Swedish, Russian and Japanese versions of the on-screen menus are available. The default setting is English.

1 Press the MENU button.
The menu appears on the screen.



2 Move the control button up or down to highlight OPTION and press the control button.

3 Move the control button up or down to highlight LANGUAGE and press the control button.

4 Move the control button up or down until the desired language appears on the screen. Then press the control button to select the language.
Each time you move the control button up or down, the language can be selected appears cyclically.
- ENGLISH
- FRANÇAIS: French
- DEUTSCH: German
- ESPAÑOL: Spanish
- ITALIANO: Italian
- NEDERLANDS: Dutch
- SVENSKA: Swedish
- РУССКИЙ: Russian
- 日本語: Japanese

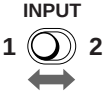
To close the menu
Press the MENU button. If no buttons are pressed, the menu closes automatically after about 45 seconds.

To reset to English
Select ENGLISH in step 4 above.

Selecting the input signal

You can connect two computers to this monitor using the video input 1 (HD15) and video input 2 (BNC) connectors. To select one of the two computers, use the INPUT switch.

Move the INPUT switch.
The selected connector appears on the screen for 3 seconds.



"INPUT 1": HD15 or "INPUT 2": BNC appears on the screen.

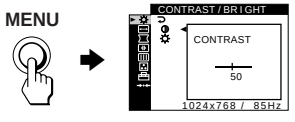
Note
If no signal is input to the selected connector, NO SIGNAL appears on the screen. After a few seconds, the monitor enters the power saving mode. If this happens, switch to the other connector.

Customizing Your Monitor

You can make numerous adjustments to your monitor using the on-screen menu.

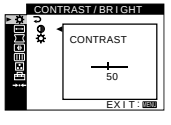
Navigating the menu

Press the MENU button to display the menu on the screen. See page 11 for more information on using the MENU and control buttons.

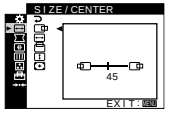


Use the control button to select one of the following menus.

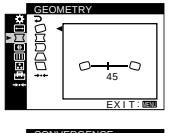
1 CONTRAST/BRIGHT (page 12)
Adjusts the contrast and brightness. You can also call up this menu directly by moving the control button up or down while there is no menu on the screen.



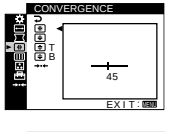
2 SIZE/CENTER (page 12)
Adjusts the size or centering.



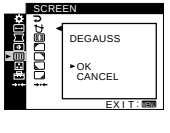
3 GEOMETRY (page 13)
Adjusts the rotation and shape of the picture.



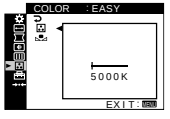
4 CONVERGENCE (page 14)
Adjusts the picture's horizontal and vertical convergence.



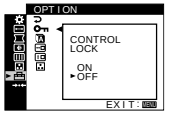
5 SCREEN (page 14)
Adjusts the picture's quality.
The options include:
- degaussing the screen (DEGAUSS)
- adjusting the moire cancellation (CANCEL MOIRE)
- adjusting the landing (LANDING)(CPD-G520 only)



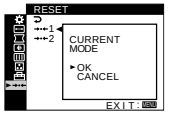
6 COLOR (page 15)
Adjusts the picture's color temperature to match the monitor's colors to a printed picture's colors.



7 OPTION (page 17)
Adjusts the monitor's options.
The options include:
- locking the controls
- changing the on-screen menu's language
- changing the on-screen menu position
- changing the picture's color temperature setting mode

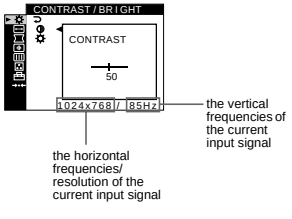


8 RESET (page 18)
Resets the adjustments.



■ Displaying the current input signal

When you press the MENU button to display the menu, the horizontal/vertical frequencies of the current input signal are displayed in the menu. If the signal matches one of this monitor's factory preset modes, the resolution is also displayed.


CONTRAST / BRIGHT
CONTRAST
50
1024x768/ 85Hz
the vertical frequencies of the current input signal
the horizontal frequencies/ resolution of the current input signal

■ Using the MENU and control buttons

1 Display the menu.
Press the MENU button to display the menu on the screen.

2 Select the menu you want to adjust.
Highlight the desired menu by moving the control button up or down. Then press the control button.

3 Adjust the menu.
Move the control button up or down to make the adjustment and press the control button.
If you want to select another menu;
move the control button up or down to select ↩ and press the control button to exit the menu.

4 Close the menu.
Press the MENU button. If no buttons are pressed, the menu closes automatically after about 45 seconds.

Adjusting the picture quality (PICTURE EFFECT)

Press the PICTURE EFFECT button.
Each time you press the button, the three picture modes cyclically change as follows.

Select	For
PROFESSIONAL	accurate and consistent display color. Choose this for professional desktop publishing and graphic applications.
STANDARD	images with high contrast and brightness. Choose this mode for commonly used applications, such as spreadsheets, word processing, E-mail, or WEB surfing.
DYNAMIC	extremely vivid and photo-realistic images. Brighter than "STANDARD" mode, choose this for intense graphic applications such as games, DVD playback, or entertainment software.

US

Adjusting the brightness and contrast (CONTRAST/BRIGHT)

These settings are stored in memory for the signals from the currently selected input connector.

1 Press the MENU button.
The menu appears on the screen.

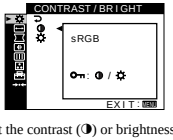
2 Move the control button up or down to highlight ☼. Then press the control button.
The CONTRAST/BRIGHT menu appears on the screen.

3 Move the control button up or down to highlight ◑ or ☼. Then press the control button.

4 Move the control button up or down to adjust the contrast (◑) or brightness (☼). Then press the control button.

If you are using the sRGB mode

If you selected the sRGB mode in the COLOR MODE ( ) of the OPTION ( ) menu, the following CONTRAST/BRIGHT menu appears on the screen.



You cannot adjust the contrast (◑) or brightness (☼) on this screen. If you want to adjust them, select a mode other than sRGB in the COLOR MODE ( ) of the OPTION ( ) menu.

For more information about using the sRGB mode, see “Adjusting the color of the picture (COLOR)” on page 15.

Adjusting the centering of the picture (SIZE/CENTER)

This setting is stored in memory for the current input signal.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight SIZE/CENTER and press the control button.
The SIZE/CENTER menu appears on the screen.

3 Move the control button up or down to select for horizontal adjustment, or for vertical adjustment. Then press the control button.

4 Move the control button up or down to adjust the centering.

Adjusting the size of the picture (SIZE/CENTER)

This setting is stored in memory for the current input signal.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight SIZE/CENTER and press the control button.
The SIZE/CENTER menu appears on the screen.

3 Move the control button up or down to select for horizontal adjustment, or for vertical adjustment. Then press the control button.

4 Move the control button up or down to adjust the size.

Automatically sizing and centering the picture (AUTO)

You can easily adjust the picture to fill the screen by using the SIZE/CENTER menu.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight SIZE/CENTER and press the control button.
The SIZE/CENTER menu appears on the screen.

3 Move the control button up or down to select (AUTO). Then press the control button.
The adjustment window appears on the screen.

4 Move the control button up or down to select OK. Then press the control button.
The picture automatically fills the screen.

Notes

- If you do not want to use the AUTO function, select CANCEL in step 4.
- This function is intended for use with a computer running Windows or similar graphic user interface software that provides a full-screen picture. It may not work properly if the background color is dark or if the input picture does not fill the screen to the edges (such as an MS-DOS prompt).
- The displayed image moves for a few seconds while this function is performed. This is not a malfunction.

Adjusting the shape of the picture (GEOMETRY)

The GEOMETRY settings allow you to adjust the rotation and shape of the picture.
The (rotation) setting is stored in memory for all input signals. All other settings are stored in memory for the current input signal.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight GEOMETRY and press the control button.
The GEOMETRY menu appears on the screen.

3 Move the control button up or down to select the desired adjustment item. Then press the control button.
The adjustment bar appears on the screen.

4 Move the control button up or down to make the adjustment. Then press the control button.

Select	To
	rotate the picture
	expand or contract the picture sides
	shift the picture sides to the left or right
	adjust the picture width at the top of the screen
	shift the picture to the left or right at the top of the screen
RESET	reset all the GEOMETRY adjustments to the factory setting levels. Select OK.

For more information about using the RESET mode, see “Resetting the adjustments (RESET)” on page 18.

US

Adjusting the convergence (CONVERGENCE)

The CONVERGENCE settings allow you to adjust the quality of the picture by controlling the convergence. The convergence refers to the alignment of the red, green, and blue color signals. If you see red or blue shadows around letters or lines, adjust the convergence.
These settings are stored in memory for all input signals.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight CONVERGENCE and press the control button.
The CONVERGENCE menu appears on the screen.

3 Move the control button up or down to select the desired adjustment item. Then press the control button.
The adjustment bar appears on the screen.

4 Move the control button up or down to make the adjustment. Then press the control button.

Select	To
	horizontally shift red or blue shadows
	vertically shift red or blue shadows
T TOP	vertically shift red or blue shadows at the top of the screen
B BOTTOM	vertically shift red or blue shadows at the bottom of the screen
RESET	reset all the CONVERGENCE adjustments to the factory setting levels. Select OK.

For more information about using the RESET mode, see “Resetting the adjustments (RESET)” on page 18.

Adjusting the picture quality (SCREEN)

The SCREEN settings allow you to degauss (demagnetize) the monitor manually and adjust the picture quality by controlling the moire and landing.
- If the color is not uniform or picture is fuzzy, degauss the monitor (DEGAUSS).
- If elliptical or wavy patterns appear on the screen, cancel the moire (CANCEL MOIRE).
- If the color is irregular at the corners of the screen, adjust the landing (LANDING) (CPD-G520 only).

The monitor is automatically demagnetized (degaussed) when the power is turned on.
The screen is degaussed for about 2 seconds. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

The CANCEL MOIRE setting is stored in memory for the current input signal. All other settings are stored in memory for all input signals.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight SCREEN and press the control button.
The SCREEN menu appears on the screen.

3 Move the control button up or down to select the desired adjustment item. Then press the control button.
The adjustment bar appears on the screen.

4 Move the control button up or down to make the adjustment. Then press the control button.

Select	To
DEGAUSS	degauss the monitor. To degauss the monitor manually, select OK.
CANCEL MOIRE	adjust the degree of moire cancellation until the moire* is at a minimum
LANDING**	reduce any color irregularities in the screen’s top left corner to a minimum
LANDING**	reduce any color irregularities in the screen’s top right corner to a minimum
LANDING**	reduce any color irregularities in the screen’s bottom left corner to a minimum
LANDING**	reduce any color irregularities in the screen’s bottom right corner to a minimum
RESET**	reset all the SCREEN adjustments to the factory setting levels. Select OK.

* Moire is a type of natural interference which produces soft, wavy lines on your screen. It may appear due to interference between the pattern of the picture on the screen and the phosphor pitch pattern of the monitor.
** The LANDING and RESET functions are for CPD-G520 only.

Example of moire

Note
The picture may become fuzzy when the CANCEL MOIRE function is activated.

Adjusting the color of the picture (COLOR)

The COLOR settings allow you to adjust the picture’s color temperature by changing the color level of the white color field. Colors appear reddish if the temperature is low, and bluish if the temperature is high. This adjustment is useful for matching the monitor’s color to a printed picture’s colors.
You can set the color temperature for each of the video input connectors.

■ Select the COLOR mode

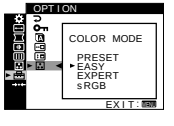
There are 4 types of adjustment modes, EASY, PRESET, EXPERT, and sRGB. The default setting is EASY which can be adjustable from 5000K to 11000K.
If you want to set another mode (other than EASY), select the desired mode in the OPTION ( ) menu. Then adjust the selected mode in each COLOR ( ) menu.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight OPTION and press the control button.
The OPTION menu appears on the screen.

3 Move the control button up or down to highlight COLOR MODE. Then press the control button.

4 Move the control button up or down to select the COLOR mode.



US

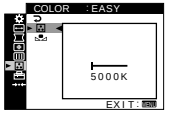
(continued)

■ EASY mode

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight ⚄ COLOR and press the control button.
The COLOR menu appears on the screen.

3 Move the control button up or down to highlight ⚄. Then press the control button.
The adjustment bar appears.



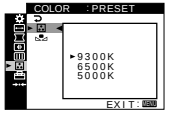
4 Move the control button up or down to fine tune the color temperature.
The new color temperature setting you fine tuned between 5000K to 11000K is stored in memory.

■ PRESET mode

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight ⚄ COLOR and press the control button.
The COLOR menu appears on the screen.

3 Move the control button up or down to highlight ⚄. Then press the control button.
The adjustment bar appears.



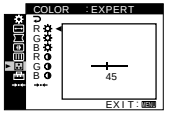
4 Move the control button up or down to select the desired temperature.
The preset color temperatures are 5000K, 6500K, and 9300K. Since the default setting is 9300K, the whites will change from a bluish hue to a reddish hue as the temperature is lowered to 6500K and 5000K.

■ EXPERT mode

You can make additional adjustments to the color in greater detail by selecting the EXPERT mode.

1 Press the MENU button.
The menu appears on the screen.

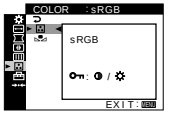
2 Move the control button up or down to highlight ⚄ COLOR and press the control button.
The COLOR menu appears on the screen.



3 Move the control button up or down to adjust the R (red), G (green), and B (blue) component of input signal for each of GAIN (◑) and BIAS (☼). Then press the control button.
If you want to reset the EXPERT adjustments, select ↠ (RESET) in COLOR menu. Then select OK in the RESET window.

■ sRGB mode

The sRGB color setting is an industry standard color space protocol designed to correlate the displayed and printed colors of sRGB compliant computer products. To adjust the colors to the sRGB profile, simply select the sRGB mode in the COLOR MODE (⚄) menu of the OPTION (🧰) menu.
However, in order to display the sRGB colors correctly (γ = 2.2, 6500K), you must set the PICTURE EFFECT mode to PROFESSIONAL (page 11) and your computer to the sRGB profile. If you select this mode, you cannot operate the CONTRAST/BRIGHT menu adjustments.



Note
Your computer and other connected products (such as a printer), must be sRGB compliant.

Restoring the color from the EASY, PRESET, or sRGB modes (IMAGE RESTORATION)

The colors of most display monitors tend to gradually change brilliance over several years of service. The IMAGE RESTORATION feature found in the EASY, PRESET, and sRGB menus allows you to restore the color to the original factory quality levels. The explanation below explains how to restore the monitor's color from the EASY mode for example.

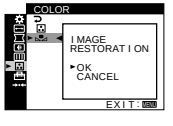
First, select the EASY, PRESET, or sRGB mode in the OPTION menu (page 15).

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight ⚄ COLOR and press the control button.
The COLOR menu appears on the screen.

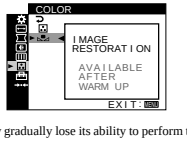
3 Move the control button up or down to highlight IMAGE RESTORATION. Then press the control button.

4 Move the control button up or down to select OK. Then press the control button.



The picture disappears while the color is being restored (about 2 seconds). After the color is restored, the picture reappears on the screen again.

Notes
- Before using this feature, the monitor must be in normal operation mode (green power indicator on) for at least 30 minutes. If the monitor goes into power saving mode, you must return the monitor to normal operation mode and wait for 30 minutes for the monitor to be ready. You may need to adjust your computer's power saving settings to keep the monitor in normal operation mode for the full 30 minutes. If the monitor is not ready, the following message will appear.



- The monitor may gradually lose its ability to perform this function due to the natural aging of the picture tube.

Additional settings (OPTION)

You can lock the controls, change the on-screen language, change the menu position, and set the COLOR mode.

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight 🧰 OPTION and press the control button.
The OPTION menu appears on the screen.

3 Move the control button up or down to select the desired adjustment item.
Adjust the selected item according to the following instructions.

■ Locking the controls (CONTROL LOCK)

You can protect the adjustment data by locking the controls. Move the control button up or down to highlight 🔑 (CONTROL LOCK) and press the control button. Then move the control button up or down to select ON and press the control button.
Only the ⏻ (power) switch, MENU button, INPUT switch, and 🔑 (CONTROL LOCK) of the 🧰 OPTION menu will operate. If any other items are selected, the 🔑 mark appears on the screen.

To cancel the control lock
Repeat the procedure above and set 🔑 (CONTROL LOCK) to OFF.

■ Changing the on-screen language (LANGUAGE)

See page 8.

■ Changing the menu's position (OSD POSITION)

Change the menu's position if it is blocking an image on the screen.
Move the control button up or down to select ↔ (OSD POSITION) for horizontal adjustment, or ↕ (OSD POSITION) for vertical adjustment and press the control button. Then move the control button up or down to shift the on-screen menu.

■ Setting the COLOR mode

See page 15.

US

Resetting the adjustments (RESET)

This monitor has the following 2 reset methods.

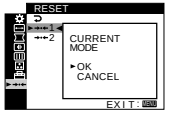
■ Resetting all the adjustment data for the current input signal

1 Press the MENU button.
The menu appears on the screen.

2 Move the control button up or down to highlight ⇢RESET and press the control button.

3 Move the control button up or down to select ⇢1 and press the control button.

4 Move the control button up or down to select OK and press the control button.



Note that the following items are not reset by this method:
- on-screen menu language (page 8)
- color mode setting in the OPTION menu (EASY, PRESET, EXPERT, sRGB) (page 15)
- color temperature setting in the PRESET mode (5000K, 6500K, 9300K) (page 16)
- on-screen menu position (page 17)

■ Resetting all of the adjustment data for all input signals

Select ⇢2 in step 3 above.

Note
The RESET function does not function when (CONTROL LOCK) is set to ON.

Technical Features

Preset and user modes

When the monitor receives an input signal, it automatically matches the signal to one of the factory preset modes stored in the monitor's memory to provide a high quality picture at the center of the screen. (See Appendix for a list of the factory preset modes.) For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor ensures that a clear picture appears on the screen for any timing in the monitor's frequency range (horizontal: 30 – 130 kHz (CPD-G520), 30 – 110 kHz (CPD-G420), vertical: 48 – 170 Hz). If the picture is adjusted, the adjustment data is stored as a user mode and automatically recalled whenever the same input signal is received.

Note for Windows users

For Windows users, check your graphics board manual or the utility program which comes with your graphics board and select the highest available refresh rate to maximize monitor performance.

Power saving function

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If no signal is input to the monitor from your computer, the monitor will automatically reduce power consumption as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 135 W (CPD-G520) ≤ 130 W (CPD-G420)	green
active off** (deep sleep)***	≤ 3 W	orange
power off	Approx. 0 W	off

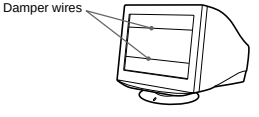
* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.
** When your computer enters power saving mode, the input signal is cut and NO SIGNAL appears on the screen before the monitor enters active off mode. After a few seconds, the monitor enters power saving mode.
*** "Deep sleep" is power saving mode defined by the Environmental Protection Agency.

Troubleshooting

Before contacting technical support, refer to this section.

If thin lines appear on your screen (damper wires)

The visible lines on your screen especially when the background screen color is light (usually white), are normal for the Trinitron monitor. This is not a malfunction. These are shadows from the damper wires used to stabilize the aperture grille. The aperture grille is the essential element that makes a Trinitron picture tube unique by allowing more light to reach the screen, resulting in a brighter, more detailed picture.

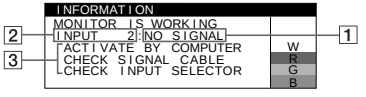


On-screen messages

If there is something wrong with the input signal, one of the following messages appears on the screen.

If NO SIGNAL appears on section 1

This indicates that no signal is input from the selected connector.

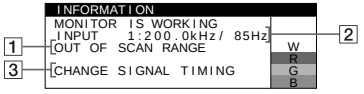


2 The selected connector
This message shows the currently selected connector (INPUT 1 or INPUT 2).

3 The remedies
The following messages appear on the screen.
- If ACTIVATE BY COMPUTER appears on the screen, try pressing any key on the computer or moving the mouse, and confirm that your computer's graphics board is completely seated in the correct bus slot.
- If CHECK SIGNAL CABLE appears on the screen, check that the monitor is correctly connected to the computer (page 6).
- If CHECK INPUT SELECTOR appears on the screen, try changing the input signal (page 9).

If OUT OF SCAN RANGE appears on line 1

This indicates that the input signal is not supported by the monitor's specifications.



2 The selected connector and the frequencies of the current input signal
This message shows the currently selected connector (INPUT 1 or INPUT 2). If the monitor recognizes the frequencies of the current input signal, the horizontal and vertical frequencies are also displayed.

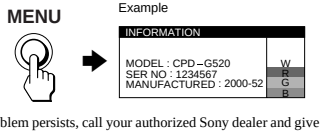
3 The remedies
CHANGE SIGNAL TIMING appears on the screen. If you are replacing an old monitor with this monitor, reconnect the old monitor. Then adjust the computer's graphics board so that the horizontal frequency is between 30 – 130 kHz (CPD-G520), 30 – 110 kHz (CPD-G420), and the vertical frequency is between 48 – 170 Hz.

For more information, see "Trouble symptoms and remedies" on page 20.

US

Displaying this monitor's name, serial number, and date of manufacture.

While the monitor is receiving a video signal, press and hold the MENU button for more than 5 seconds to display this monitor's information box.

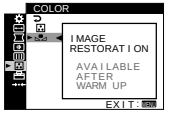


If the problem persists, call your authorized Sony dealer and give the following information.
- Model name: CPD-G520 or CPD-G420
- Serial number
- Name and specifications of your computer and graphics board.

Trouble symptoms and remedies

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual. Use the self-diagnosis function (page 22) if the following recommendations do not resolve the problem.

Symptom	Check these items
No picture	
If the ⏻ (power) indicator is not lit	• Check that the power cord is properly connected. • Check that the ⏻ (power) switch is in the "on" position.
If the NO SIGNAL message appears on the screen, or if the ⏻ (power) indicator is orange	• Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets (page 6). • Check that the INPUT switch setting is correct (page 9). • Check that the video input connector's pins are not bent or pushed in. **■Problems caused by the connected computer or other equipment** • The computer is in power saving mode. Try pressing any key on the keyboard or moving the mouse. • Check that the computer's power is "on." • Check that the graphic board is completely seated in the proper bus slot.
If the OUT OF SCAN RANGE message appears on the screen	**■Problems caused by the connected computer or other equipment** • Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following. Horizontal: 30 – 130 kHz (CPD-G520), 30 – 110 kHz (CPD-G420) Vertical: 48 – 170 Hz
If no message is displayed and the ⏻ (power) indicator is green or flashing orange	• Use the Self-diagnosis function (page 22).
If using a Macintosh system	• When connecting to a Power Mac G3/G4 that has 3 rows of pins, check that the supplied exclusive Power Mac G3/G4 adapter and the video signal cable are properly connected (page 6). • If you connect to the other version of Macintosh series computer that has 2 rows of pins, you will need a different adapter (not supplied).
Picture flickers, bounces, oscillates, or is scrambled	• Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, fluorescent lighting, televisions, or electric fans. • Move the monitor away from power lines or place a magnetic shield near the monitor. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try turning the monitor 90° to the left or right. **■Problems caused by the connected computer or other equipment** • Check your graphics board manual for the proper monitor setting. • Confirm that the graphics mode (VESA, Macintosh 21" Color, etc.) and the frequency of the input signal are supported by this monitor (Appendix). Even if the frequency is within the proper range, some graphics boards may have a sync pulse that is too narrow for the monitor to sync correctly. • Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.
Picture is fuzzy	• Adjust the contrast and brightness (page 12). • Degauss the monitor* (page 14). • Adjust the degree of moire cancellation until the moire is minimal, or set CANCEL MOIRE to OFF (page 14).

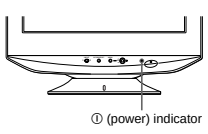
Symptom	Check these items
Picture is ghosting	• Eliminate the use of video cable extensions and/or video switch boxes. • Check that all plugs are firmly seated in their sockets.
Picture is not centered or sized properly	• Set the AUTO (⊡) function to OK (on) in the SIZE/CENTER menu (page 13). • Adjust the size or centering (page 12). Note that with some input signals and/or graphics boards the periphery of the screen is not fully utilized.
Edges of the image are curved	• Adjust the geometry (page 13).
Wavy or elliptical pattern (moire) is visible	• Adjust the degree of moire cancellation until the moire is minimal (page 14). **■Problems caused by the connected computer or other equipment** • Change your desktop pattern.
Color is not uniform	• Degauss the monitor* (page 14). If you place equipment that generates a magnetic field, such as a speaker, near the monitor, or if you change the direction the monitor faces, color may lose uniformity. • Adjust the landing (page 14) (CPD-G520 only).
White does not look white	• Adjust the color temperature (page 15). • Check that the 5 BNC connectors are connected in the correct order (page 6).
Letters and lines show red or blue shadows at the edges	• Adjust the convergence (page 14).
Monitor buttons do not operate (🔑 appears on the screen)	• If the control lock is set to ON, set it to OFF (page 17).
IMAGE RESTORATION function does not operate 	• Before using this function, the monitor must be in normal operation mode (green power indicator on) for at least 30 minutes. For more information on using the IMAGE RESTORATION function, see page 17. • Adjust the computer's power saving settings to keep the monitor in normal operation mode for more than 30 minutes. • The monitor may gradually lose its ability to perform this function due to the natural aging of the picture tube.
USB peripherals do not function	• Check that the appropriate USB connectors are securely connected (page 8). • Check that the ⏻ (power) switch is in the "on" position. Then reconnect the USB cable to the monitor. **■Problems caused by the connected computer or other equipment** • Check that the power of any self-powered USB compliant peripheral devices is "on." • Install the latest version of the device driver on your computer. Contact your device's manufacturer for information about the appropriate device driver. • If your USB compliant keyboard or mouse does not function, connect them directly to your computer, reboot your computer, and make any necessary adjustments to the USB settings. Then reconnect the keyboard or mouse to the monitor. If you connect a keyboard or mouse to the USB connectors and then boot your computer for the first time, the peripheral devices may not function.
A hum is heard right after the power is turned on	• This is the sound of the auto-degauss cycle. When the power is turned on, the monitor is automatically degaussed for a few seconds.

* If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. A humming noise may be heard, but this is not a malfunction.

US

Self-diagnosis function

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard or moving the mouse.



⏻ (power) indicator

■ If the ⏻ (power) indicator is green

1 Disconnect any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).

2 Press the ⏻ (power) button twice to turn the monitor off and then on.

3 Hold the control button upward for 2 seconds before the monitor enters power saving mode.

If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

■ If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button twice to turn the monitor off and then on.
If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and graphic board.

Specifications

CPD-G520

CRT	0.24 mm aperture grille pitch 21 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 403.8 × 302.2 mm (w/h) (16 × 12 inches) 19.8" viewing image
Resolution	
Maximum	Horizontal: 2048 dots Vertical: 1536 lines
Recommended	Horizontal: 1600 dots Vertical: 1200 lines
Input signal levels	Video signal Analog RGB: 0.700 Vp-p (positive), 75 Ω SYNC signal H/V separate or composite sync: TTL 2 kΩ, Polarity free Sync on Green: 0.3 Vp-p (negative)
Standard image area	Approx. 388 × 291 mm (w/h) (15 3/8 × 11 1/2 inches) or Approx. 364 × 291 mm (w/h) (14 3/8 × 11 1/2 inches)
Deflection frequency*	Horizontal: 30 to 130 kHz Vertical: 48 to 170 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Approx. 135 W (with no USB devices connected)
Dimensions	Approx. 497 × 502 × 485 mm (w/h/d) (19 5/8 × 19 × 18 7/8 inches)
Mass	Approx. 30 kg (66 lb 2 oz)
Plug and Play	DDC2B/DDC2Bi, GTF**
Supplied accessories	See page 6

CPD-G420

CRT	0.24 mm aperture grille pitch 19 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 365 × 274 mm (w/h) (14 3/8 × 10 7/8 inches) 18.0" viewing image
Resolution	
Maximum	Horizontal: 1920 dots Vertical: 1440 lines
Recommended	Horizontal: 1280 dots Vertical: 1024 lines
Input signal levels	Video signal Analog RGB: 0.700 Vp-p (positive), 75 Ω SYNC signal H/V separate or composite sync: TTL 2 kΩ, Polarity free Sync on Green: 0.3 Vp-p (negative)
Standard image area	Approx. 352 × 264 mm (w/h) (13 7/8 × 10 1/2 inches) or Approx. 330 × 264 mm (w/h) (13 × 10 1/2 inches)
Deflection frequency*	Horizontal: 30 to 110 kHz Vertical: 48 to 170 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Approx. 130 W (with no USB devices connected)
Dimensions	Approx. 451 × 471 × 461 mm (w/h/d) (17 7/8 × 18 5/8 × 18 1/4 inches)
Mass	Approx. 25.5 kg (56 lb 3 oz)
Plug and Play	DDC2B/DDC2Bi, GTF**
Supplied accessories	See page 6

* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.3 µsec.
- Vertical blanking width should be more than 450 µsec.

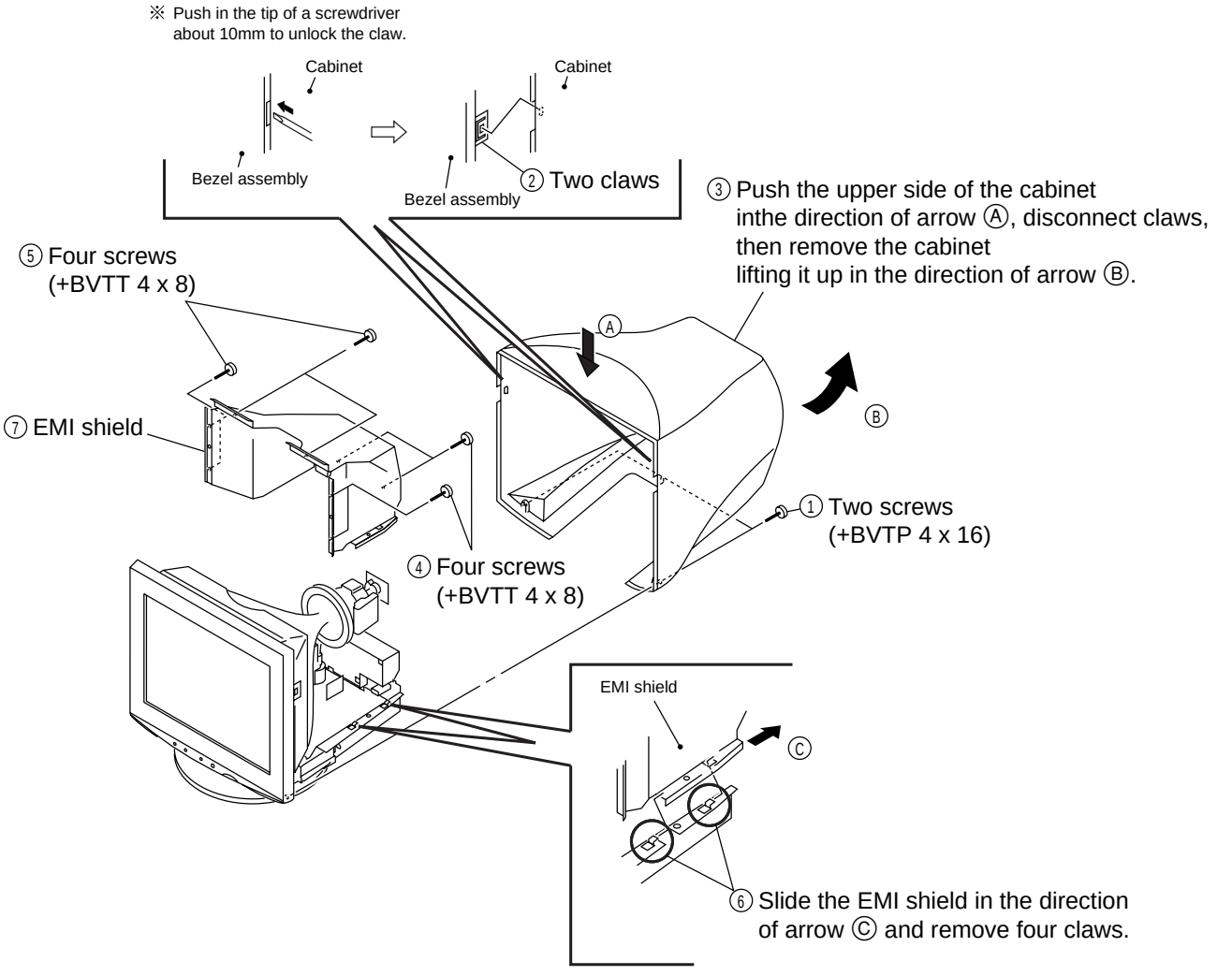
** If the input signal is Generalized Timing Formula (GTF) compliant, the GTF feature of the monitor will automatically provide an optimal image for the screen.

Design and specifications are subject to change without notice.

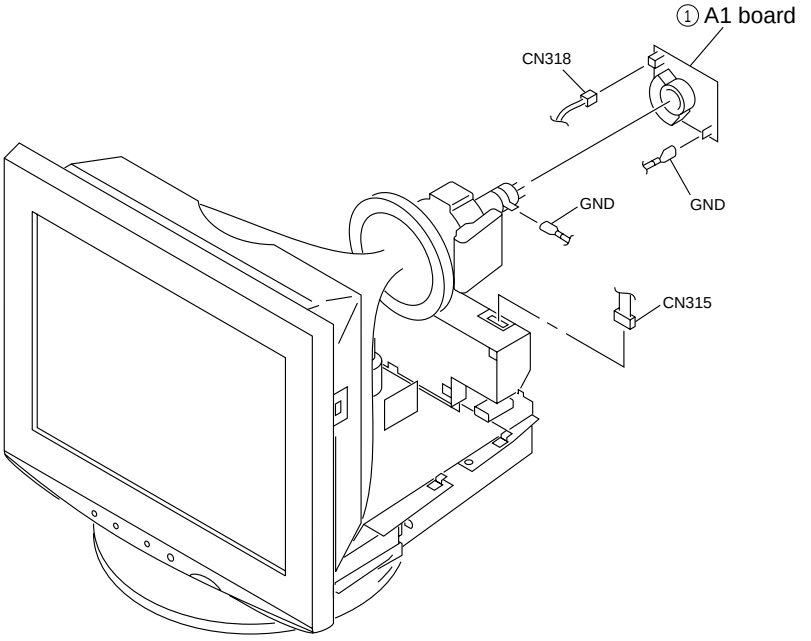
US

SECTION 2
DISASSEMBLY

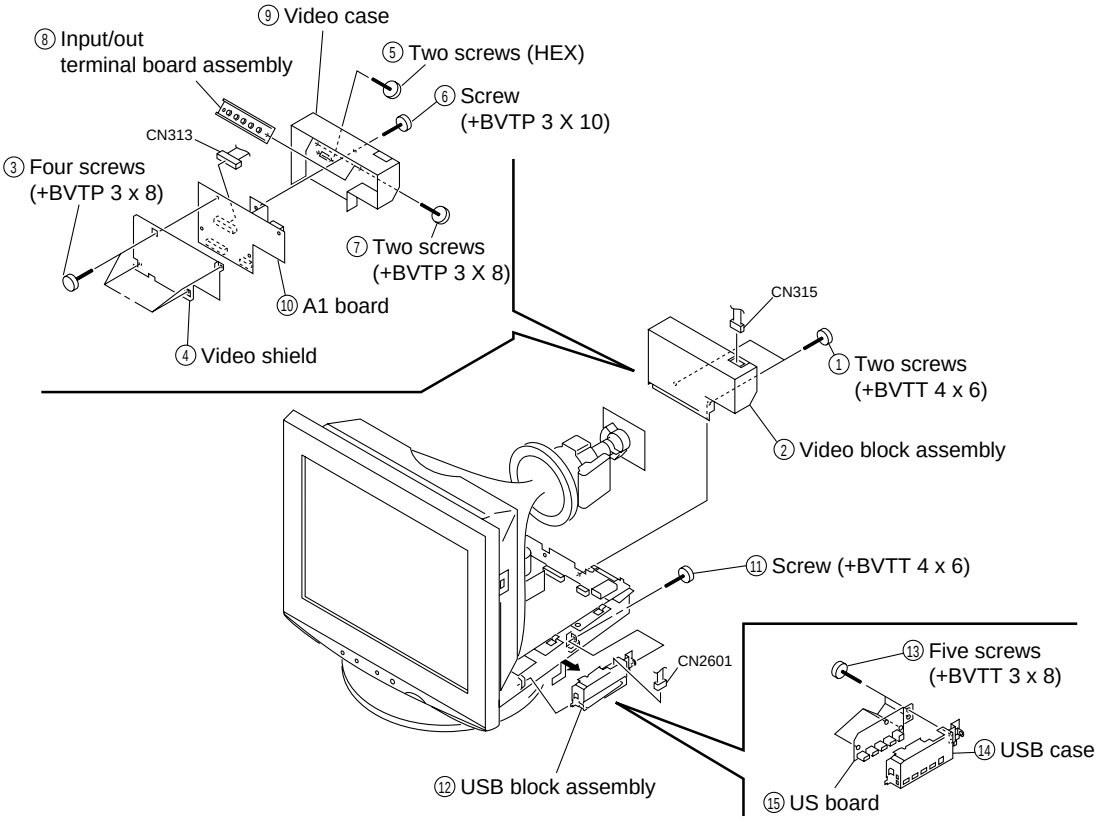
2-1. CABINET REMOVAL


※ Push in the tip of a screwdriver about 10mm to unlock the claw.
Cabinet
Cabinet
Bezel assembly
Bezel assembly
② Two claws
③ Push the upper side of the cabinet inthe direction of arrow Ⓐ, disconnect claws, then remove the cabinet lifting it up in the direction of arrow Ⓑ.
⑤ Four screws (+BVTT 4 x 8)
Ⓐ
Ⓑ
⑦ EMI shield
① Two screws (+BVTP 4 x 16)
④ Four screws (+BVTT 4 x 8)
EMI shield
Ⓒ
⑥ Slide the EMI shield in the direction of arrow Ⓒ and remove four claws.

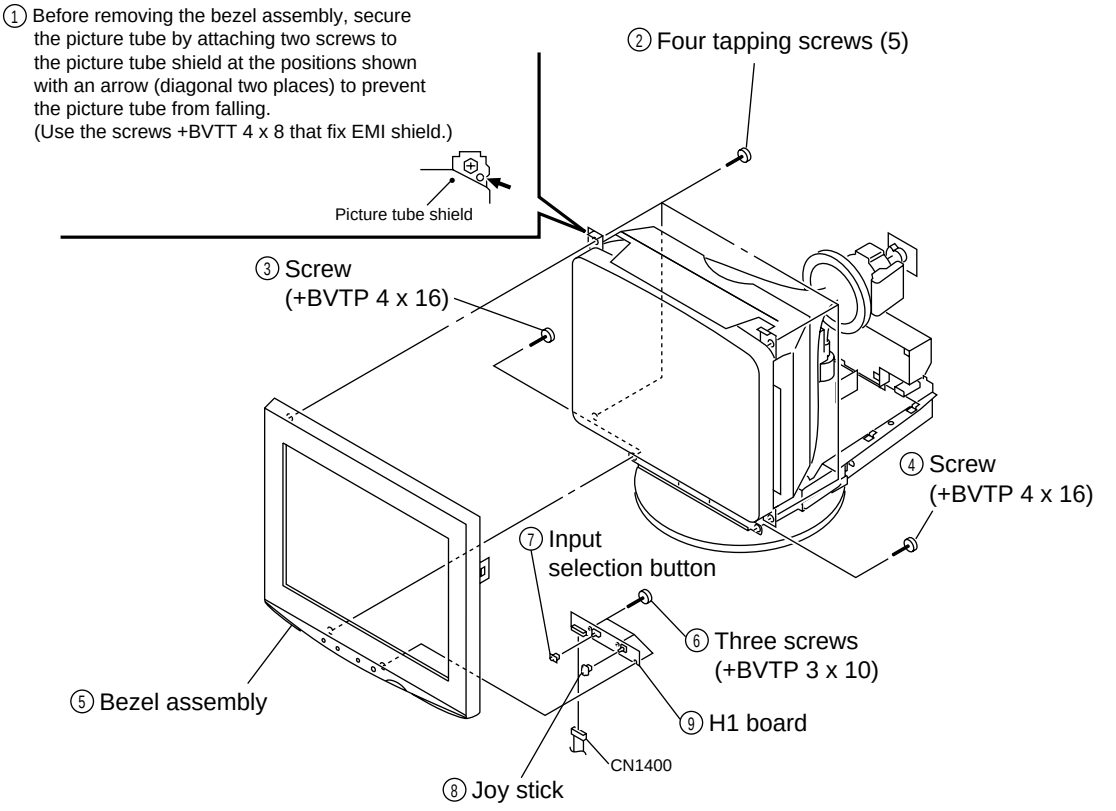
2-2. A1 BOARD (C BLOCK) REMOVAL



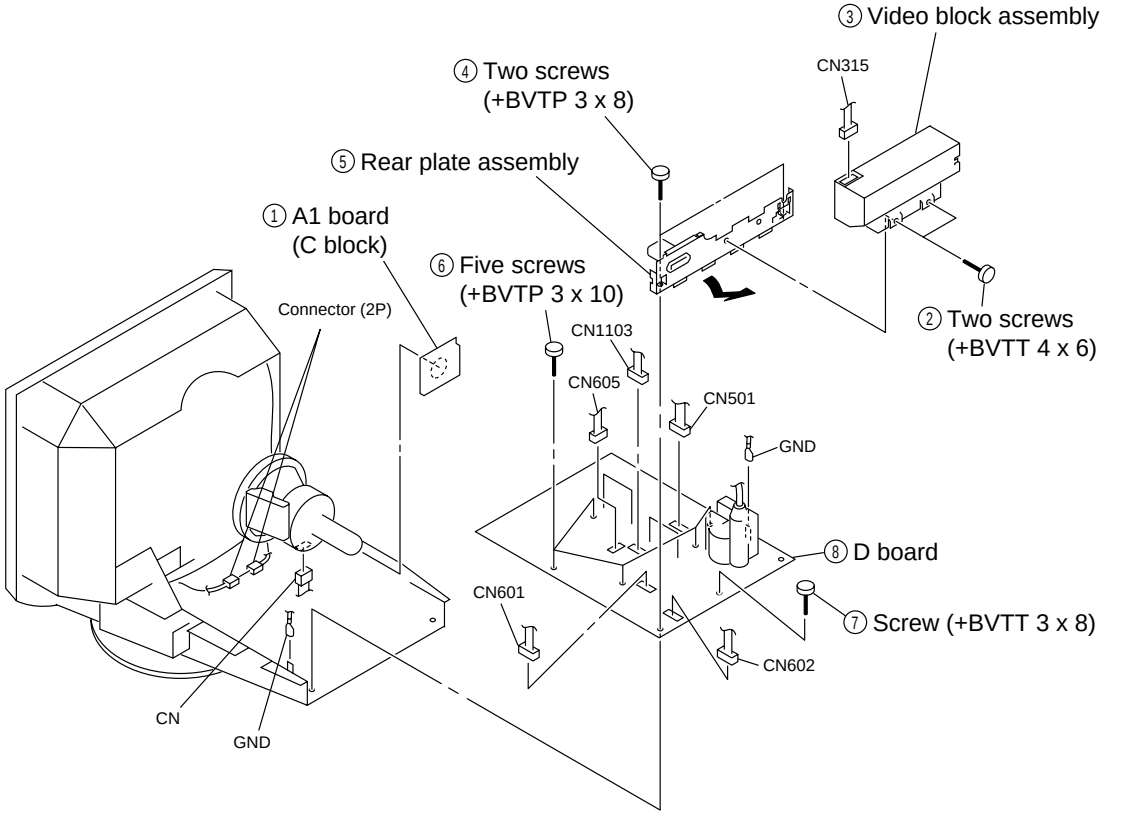
2-3. A1 BOARD, US BOARD REMOVAL


⑨ Video case
⑧ Input/out terminal board assembly
⑤ Two screws (HEX)
⑥ Screw (+BVTP 3 X 10)
CN313
③ Four screws (+BVTP 3 x 8)
⑦ Two screws (+BVTP 3 X 8)
⑩ A1 board
④ Video shield
CN315
① Two screws (+BVTT 4 x 6)
② Video block assembly
⑪ Screw (+BVTT 4 x 6)
CN2601
⑬ Five screws (+BVTT 3 x 8)
⑭ USB case
⑫ USB block assembly
⑮ US board

2-4. BEZEL ASSEMBLY, H1 BOARD REMOVAL

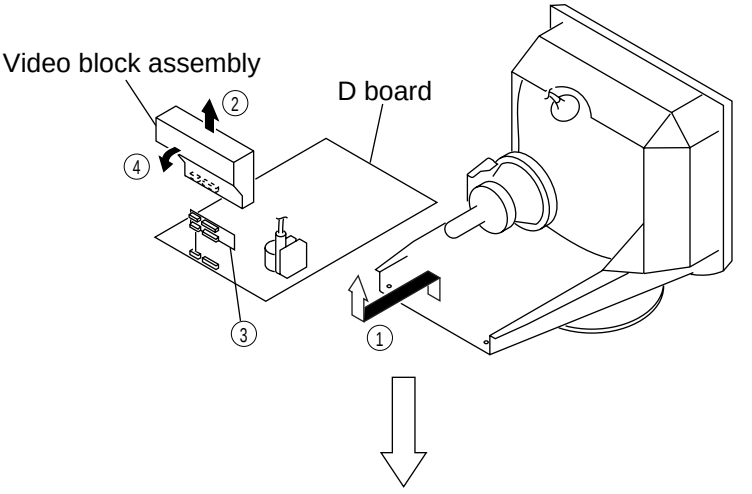

① Before removing the bezel assembly, secure the picture tube by attaching two screws to the picture tube shield at the positions shown with an arrow (diagonal two places) to prevent the picture tube from falling.
(Use the screws +BVTT 4 x 8 that fix EMI shield.)
Picture tube shield
② Four tapping screws (5)
③ Screw (+BVTP 4 x 16)
④ Screw (+BVTP 4 x 16)
⑦ Input selection button
⑥ Three screws (+BVTP 3 x 10)
⑤ Bezel assembly
⑨ H1 board
CN1400
⑧ Joy stick

2-5. D BOARD REMOVAL

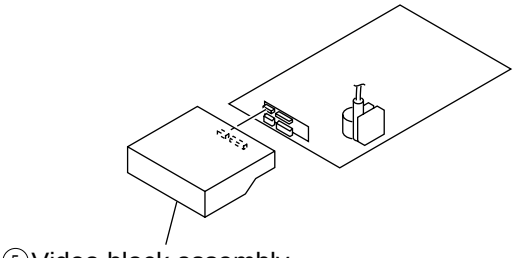


2-6. SERVICE POSITION

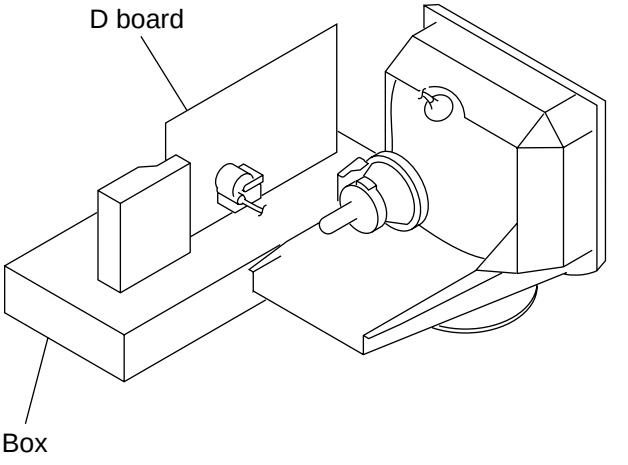
① Remove the D board.
② Remove the Video block assembly.
③ Install the Adaptor board (XT MOUNT) (A-1391-123-A).
④ Lay the Video block assembly.



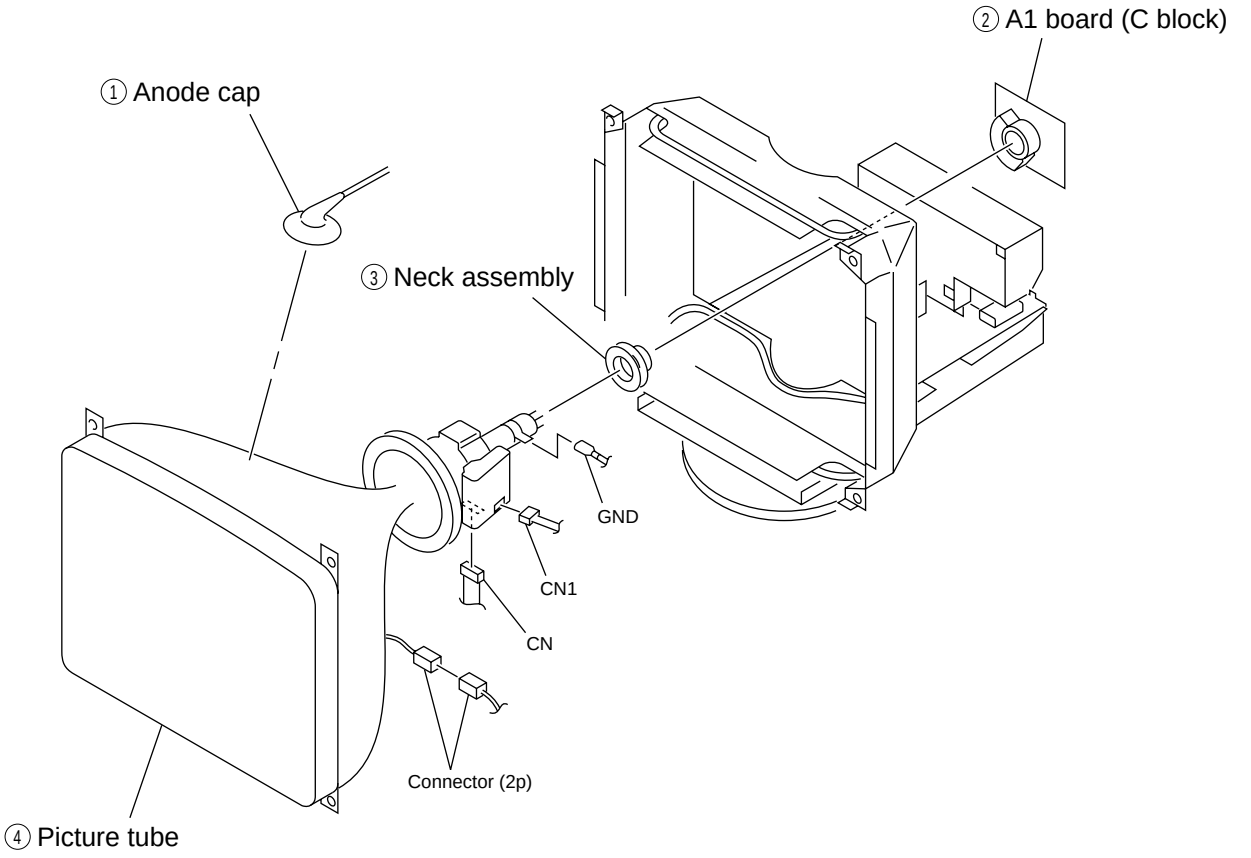
⑤ Install the video block assembly.



⑥ Put a box which is about 15cm in height under the D board to fix it.
(Please disconnect the CN 701 first.)



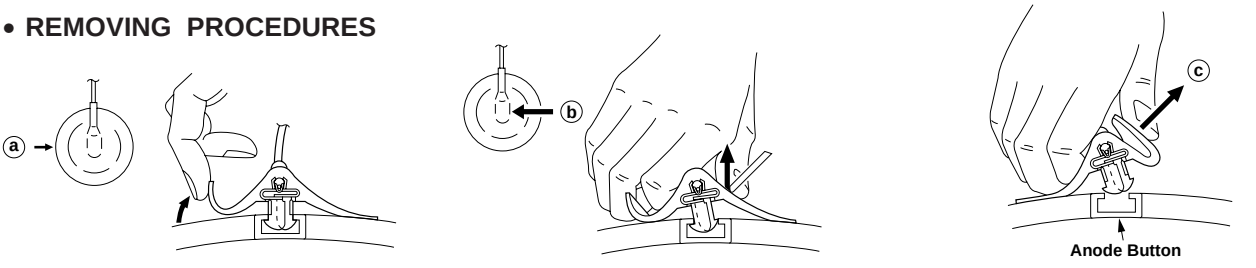
2-7. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

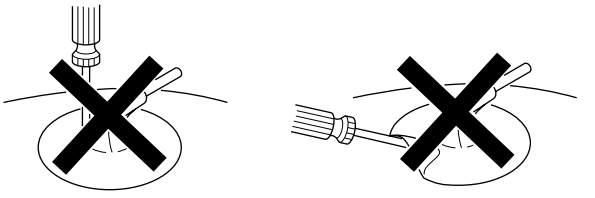
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

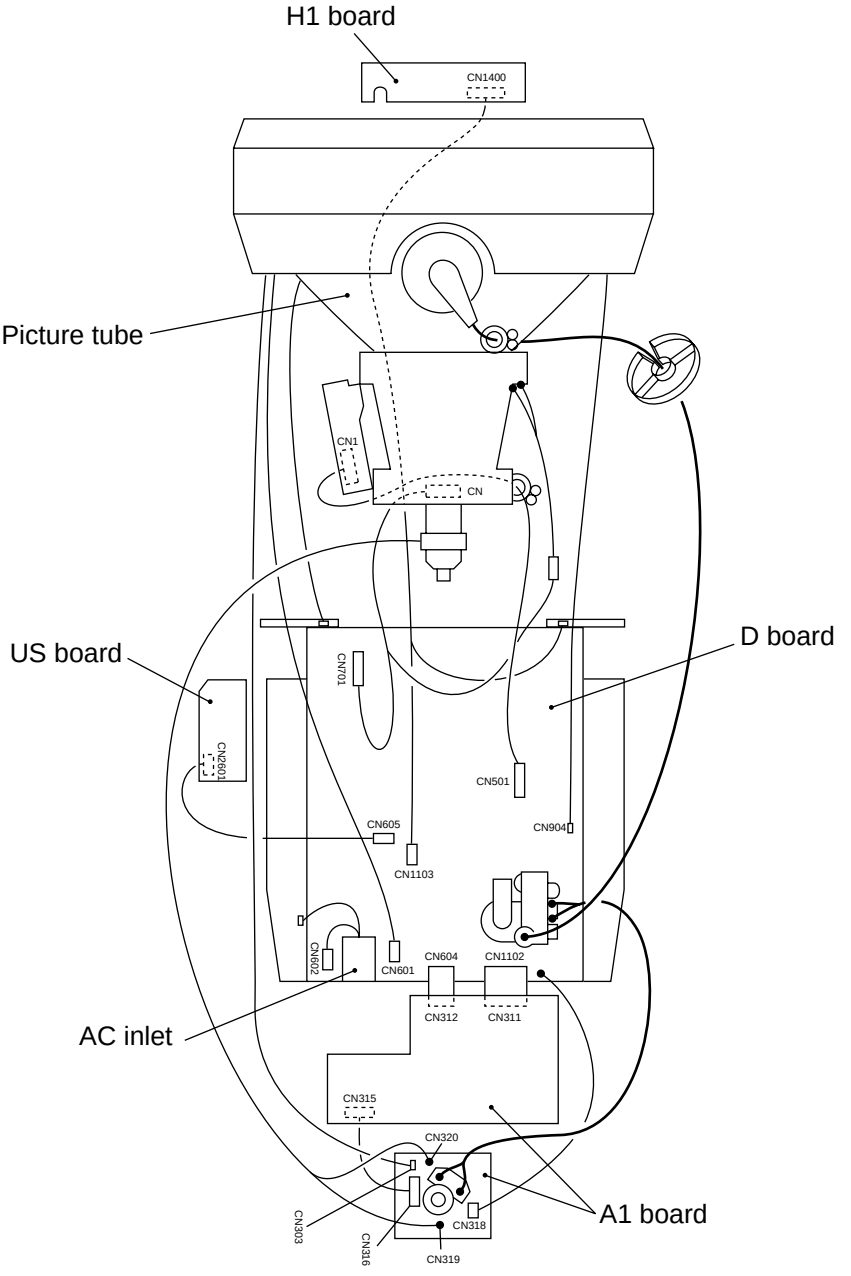
① Don't scratch the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to damage inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or damage the rubber.



2-8. HARNESS LOCATION



SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (⧓)
HV ADJ	RV901

	Part Replaced (◪)	
HV Regulator Circuit Check	D Board	C925, IC901, R901, R902, R905, R924, R925, R926, RV901, T901 (FBT) • Mounted D Board
HV Protector Circuit Check	D Board	C920, C923, D911, D912, R903, R917, R918, R919, R920, R923, T901 (FBT) • Mounted D Board
	N Board	IC1001, RB1001 • Mounted N Board
Beam Current Protector Circuit Check	D Board	C930, D917, R921, R932, R933, R935, T901 (FBT) • Mounted D Board
	N Board	IC1001, RB1001 • Mounted N Board

* Confirm one minute after turning on the power.

a) HV Regulator Circuit Check

1) Turn the RV901 slowly, and adjustment so that high voltage is in the specified range.
   [Specification]: 27.00 ± 0.05 kV
2) Check that the voltage of D912 cathode on the D board is 17.0 V or more.

b) HV Protector Circuit Check

1) Using external DC Power Supply, apply the voltage shown below between cathode of D912 and GND, and check that the RASTER disappers.
   [Specification]: 19.95 + 0.00/– 0.05 V

c) Beam Current Protector Circuit Check

1) Connect constant current source to a section between T901 (FBT) ⑪ pin and GND, and check that the RASTER disappers when the specified current flows to the ⑪ pin.
   [Specification]: 2.12 + 0.00/– 0.01 mA

SECTION 4
ADJUSTMENTS

• Landing Rough Adjustment

1. Display all white pattern (or black dot pattern).
2. Set contrast to 255.
3. Display green plain pattern.
4. Side back DY and roughly adjust green plain pattern to be centered on the useful screen with Purity Magnet.
5. Adjust DY tilt.

Note: Set ROTATION to 128 and LCC_NS to 128 when adjusting DY tilt.

6. Lightly tighten the DY screw.

• Landing Fine Adjustment

Note: (1) After adjust W/B (9300k), measure the average of ΣIK with all white video input, while CONTRAST is maximum and BRIGHTNESS is center. And adjustment shall be made so that the miss-landing become least after aging 2H with the IK 30% of measured value shown above.
(2) The magnetic field shall be BH = 0.
(3) When adjusting at other than BH = 0, calculate the shifted value from BH = 0.

1. Put the monitor in helmholz coil.
2. Set as follows;
   LCC_SW = 0 (LCC Correction Current = 0)
   FUNCTION_SW bit1 = (Auto Degauss = On)
   CONTRAST = 255
3. Display green plain pattern.
4. Degauss the iron part of chassis with a hand degausser and degauss coil.
5. Degauss CRT face with a hand degausser again.
6. Input AC 230V to AC IN and turn the monitor off and on. Then auto-degauss works.
7. Reset FUNCTION_SW bit1 to 0 (auto-degauss = off)
8. Degauss CRT face with a hand degausser again.
9. Attach wobbling coil to the specified place on CRT neck.
10. With landing checker, adjust DY position, purity, DY center and landing of the 4 corners.
11. Check landing of the 4 corners, and adjust using magnet if they are not in the specification.

<Specifications>

Adjust so that the green is within the specification given right.
4 corner adjust target : within ± 1

(μm)

0 ± 3	0 ± 7.5	0 ± 3
0 ± 3	0 ± 7.5	0 ± 3
0 ± 3	0 ± 7.5	0 ± 3

The red and blue must be within the specification given right with respect to the green.

(μm)

± 6	± 6	± 6
± 6	± 6	± 6
± 6	± 6	± 6

A difference between red and blue must be within the specification given right.

(μm)

10	10	10
10	7	10
10	10	10

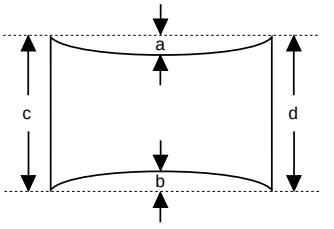
Note: (1) Do not attach more than 2 magnets on one corner.
(2) Attach magnets within the range of 80 - 100 mm from DY.
(3) Be sure to degauss and check when used magnets.

12. Tighten DY screw within specified torque, and auto-degauss.

Note: Torque 22 ± 2 kgcm (2.2 ± 0.2Nm)

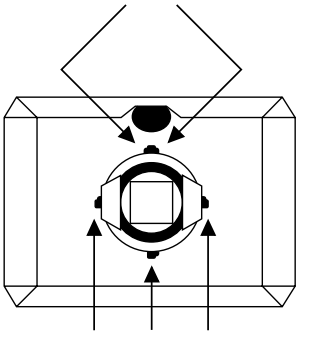
13. Adjust the vertical angle of DY to make top and bottom pins equal (a = b). The horizontal angle shall not be changed (straight). Settle DY upright without leaning, and insert wedges firmly so that DY shall not move.

<How to place wedge>
Green plain crosshatch pattern



a and b should be equal.
c and d should be equal.

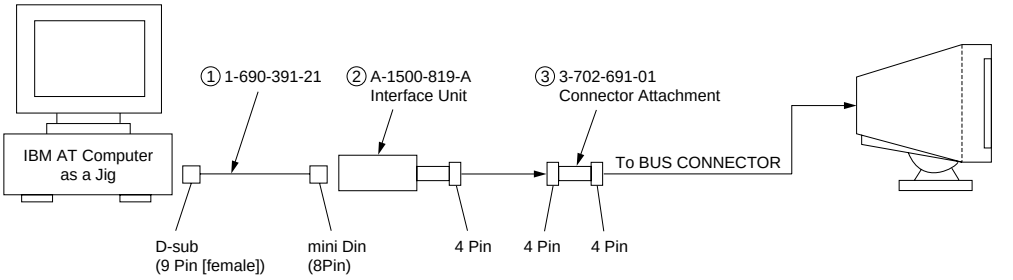
Plaster RTV to both sides for the upper wedge.
Make sure that they settle inside DY.



Plaster RTV to one side for other wedges.

14. Adjust top and bottom pins correction VR.
15. Adjust the horizontal trapezoid distortion by DY horizontal trapezoid correction VR.
16. Check landing at each corner and in case not in specification, adjust landing of 4 corners with landing magnet.
17. Remove the sensor and wobbling coil.
18. Switch signals to R, G, and B, and then check that the pure colors have good color purity.
19. Fix purity magnets with white paint.

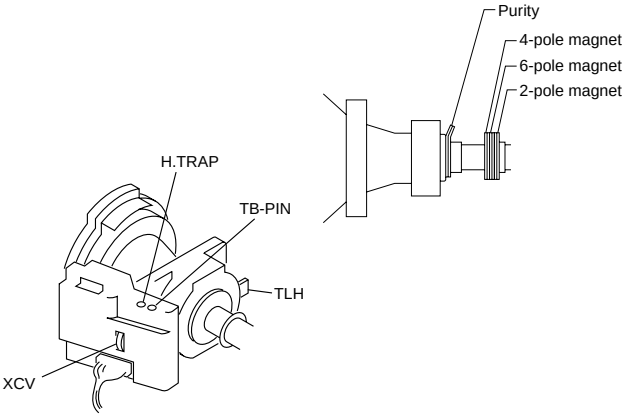
Connect the communication cable of the computer to the connector located on the D board. Run the service software and then follow the instruction.

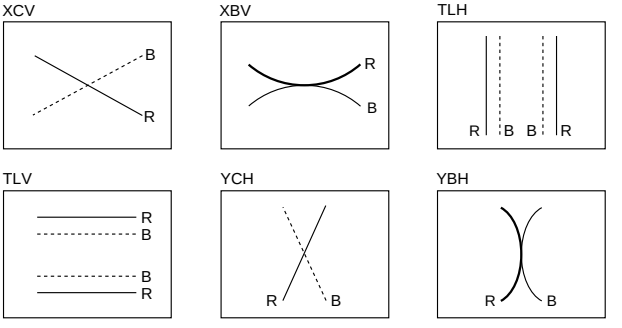


*The parts above (① ~ ③) are necessary for DAS adjustment.

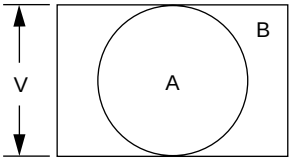
- **Convergence Rough Adjustment**

(1) Display white crosshatch pattern.
(2) Pile the convex parts of 6-pole magnet for convergence together.
(3) Roughly adjsut H.CONV and V.CONV with 4-pole magnet.





- **Convergence Specification**

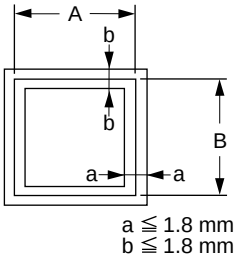


A	0.20 mm
B	0.24 mm

- **White Balance Adjustment Specification**

1. 9300 K
   x = 0.283 ± 0.005
   y = 0.298 ± 0.005
   (All White)
2. 6500 K
   x = 0.313 ± 0.005
   y = 0.329 ± 0.005
   (All White)
3. 5000 K
   x = 0.346 ± 0.005
   y = 0.359 ± 0.005
   (All White)

- **Vertical and Horizontal Position and Size Specification**

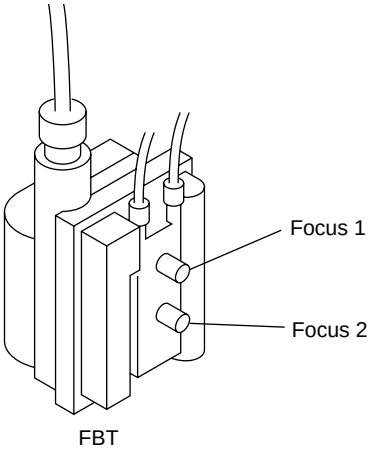


a ≦ 1.8 mm
b ≦ 1.8 mm

MODE	4 : 3	5 : 4
A	352	330
B	264	264

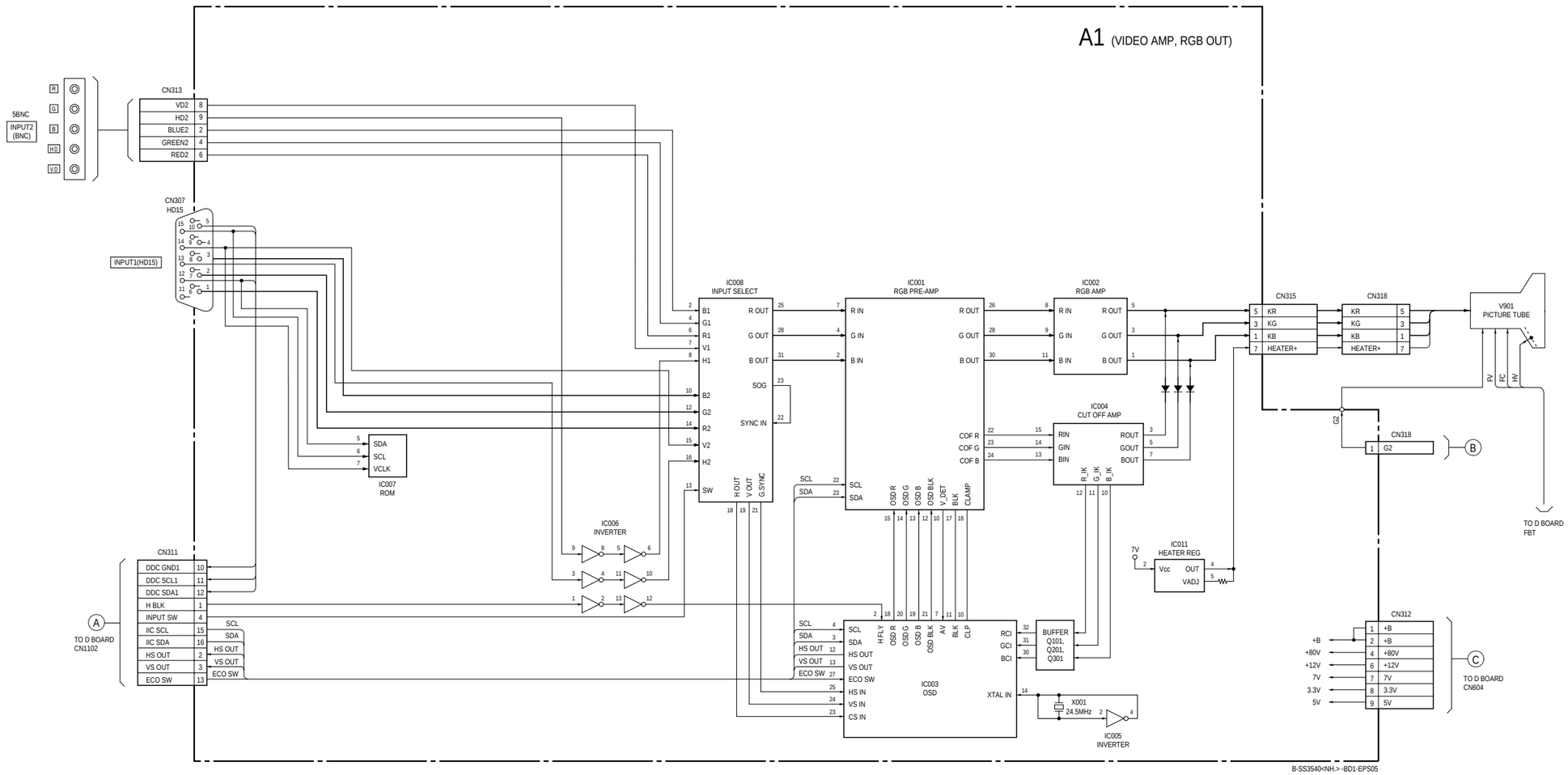
- **Focus adjustment**

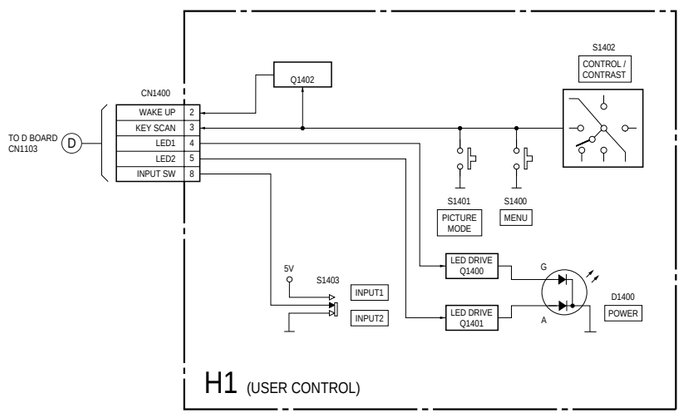
Adjust the focus volume 1 and 2 for the optimum focus.

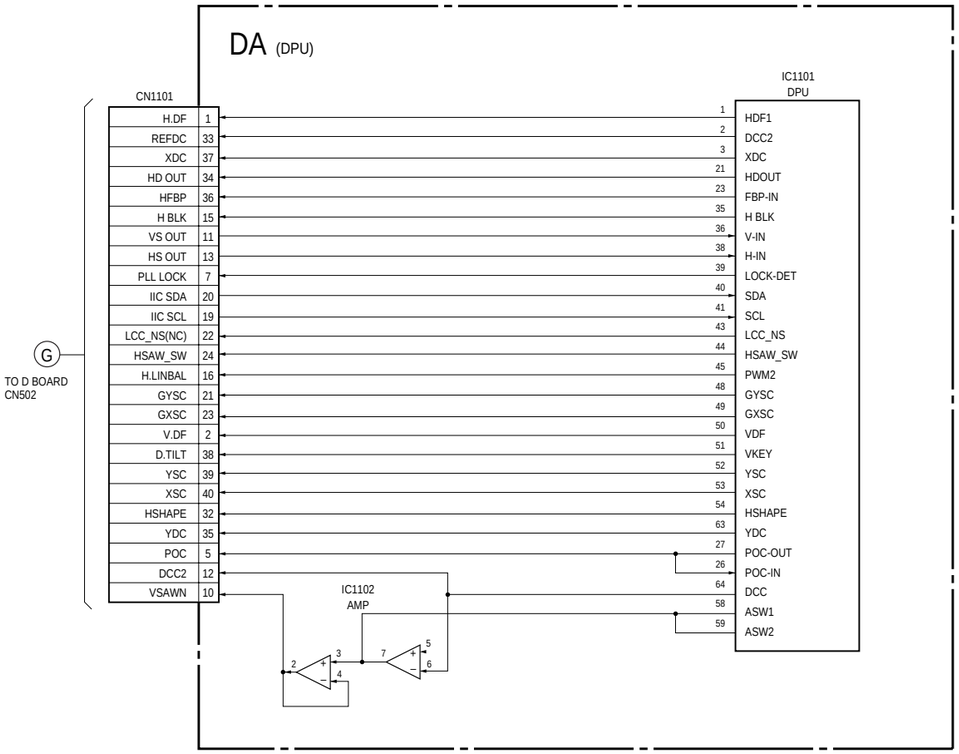


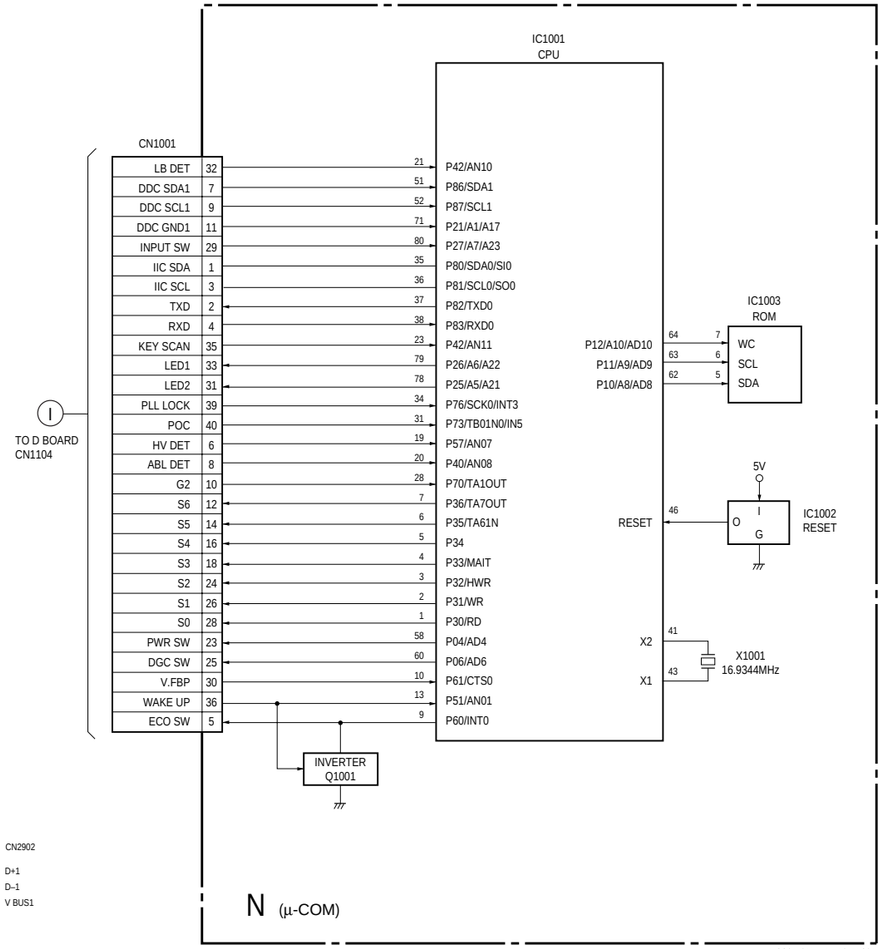
SECTION 5
DIAGRAMS

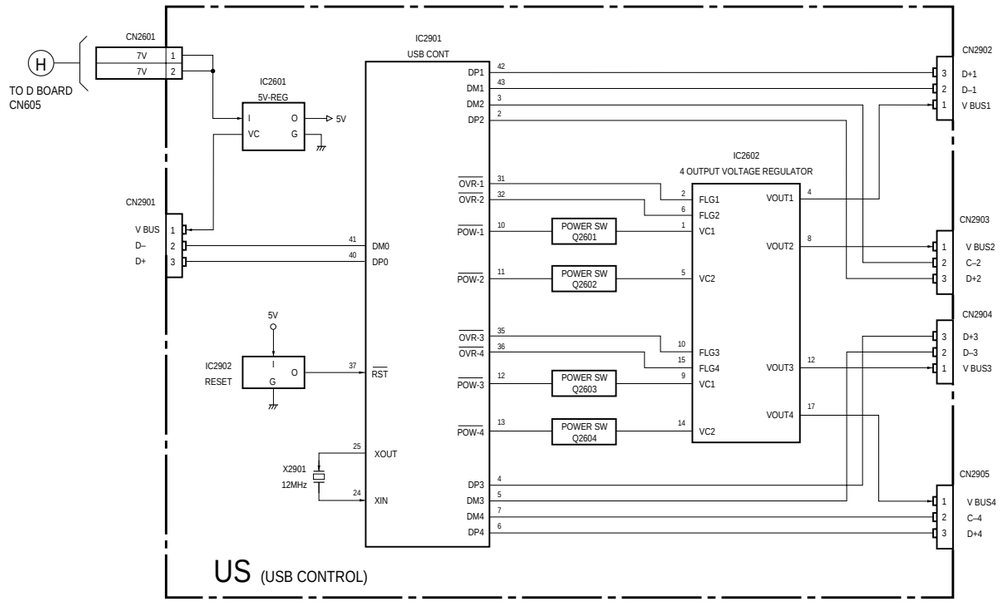
5-1. BLOCK DIAGRAMS





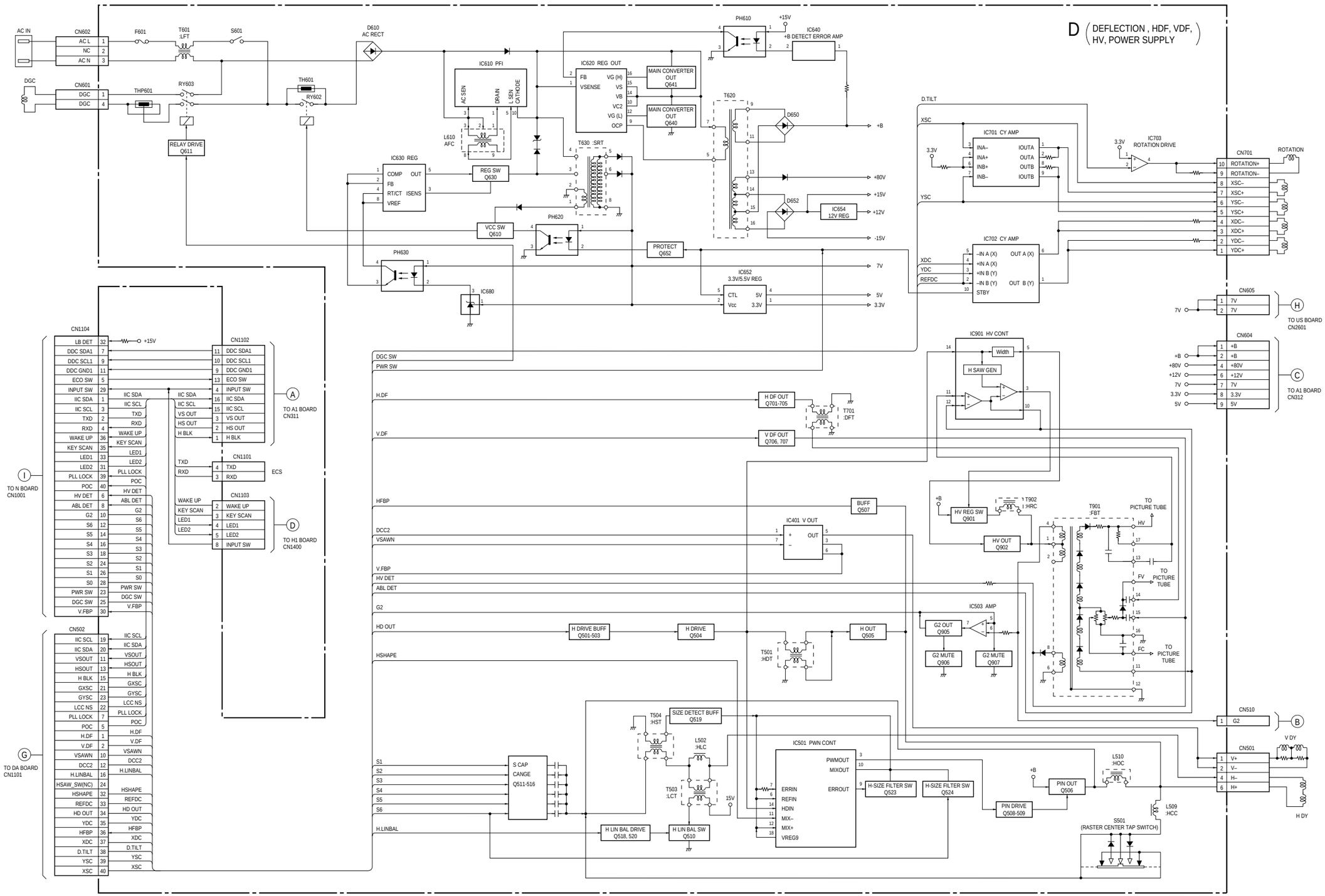






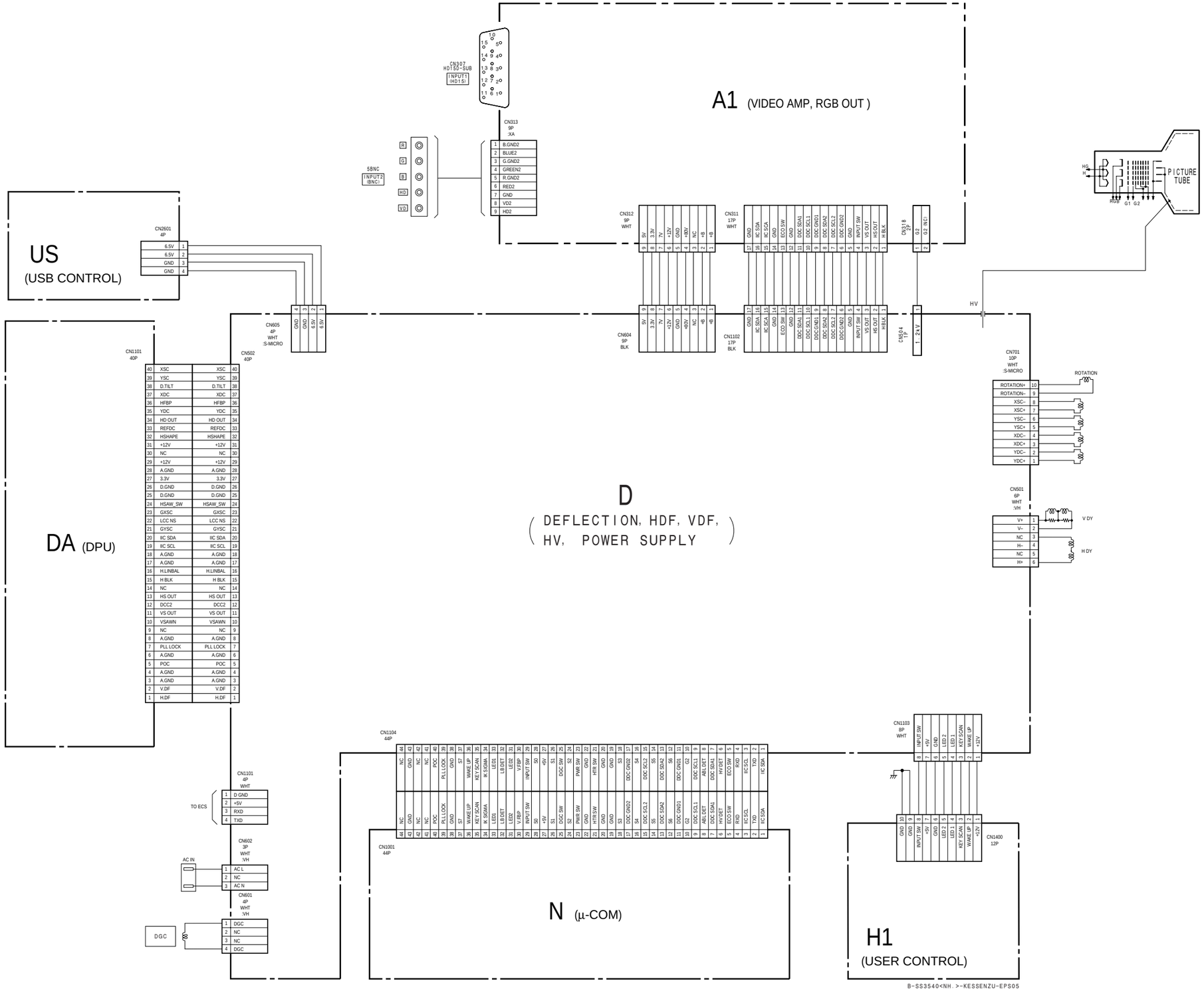
B-SS3540<NH.>-BD2-EPS05

D (DEFLECTION , HDF, VDF, HV, POWER SUPPLY)



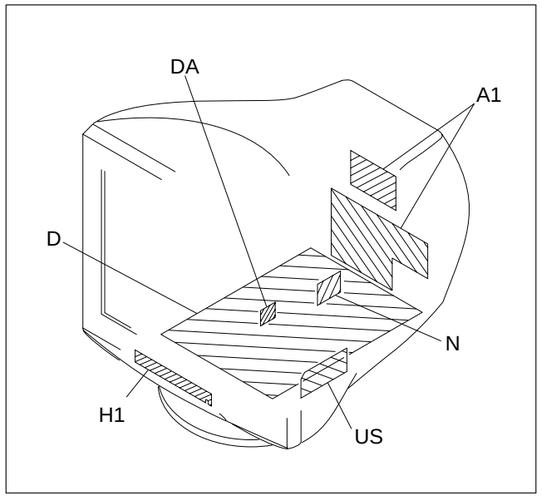
B-SS3540<NH.>-BD3-EPS05

5-2. FRAME SCHEMATIC DIAGRAM



B-SS3540<NH.>-KESSENZU-EPS05

5-3. CIRCUIT BOARDS LOCATION



5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. (pF: μμF) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 3-1)
- When replacing the part in below table, be sure to perform the related adjustment.

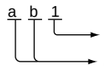
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All voltages are in V.
- Readings are taken with a 10 M digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ∗ : Can not be measured.
- Circled numbers are waveform references.
- : B + bus.
- : B – bus.

- Divided circuit diagram

  One sheet of D board circuit diagram is divided into three sheets, each having the code D-ⓐ to D-ⓒ. For example, the destination ⓐb1 on the code D-ⓐ sheet is connected to ⓐb1 on the D-ⓑ sheet.



	Part Replaced (⋈)
HV ADJ	RV901

	Part Replaced (◪)
HV Regulator Circuit Check	D Board C925, IC901, R901, R902, R905, R924, R925, R926, RV901, T901 (FBT) • Mounted D Board
HV Protector Circuit Check	D Board C920, C923, D911, D912, R903, R917, R918, R919, R920, R923, T901 (FBT) • Mounted D Board N Board IC1001, RB1001 • Mounted N Board
Beam Current Protector Circuit Check	D Board C930, D917, R921, R932, R933, R935, T901 (FBT) • Mounted D Board N Board IC1001, RB1001 • Mounted N Board

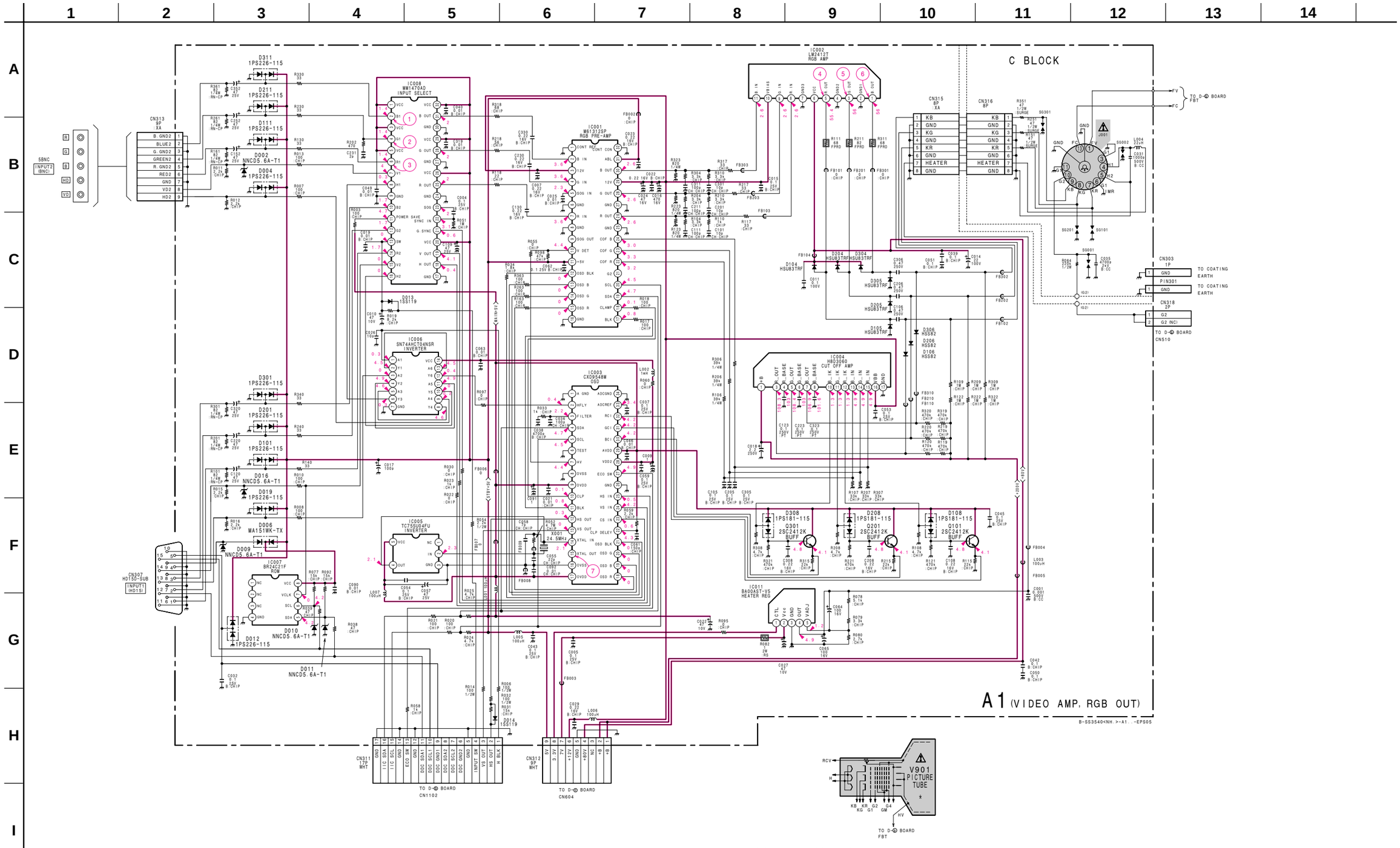
Terminal name of semiconductors in silk screen printed circuit (∗)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor	T	Collector / Base Emitter	
②	Transistor	—	Collector / Base Emitter	
③	Diode		Cathode — Anode	
④	Diode	T	Cathode / Anode (NC)	
⑤	Diode	—	Cathode / Anode (NC)	
⑥	Diode	T	Common / Anode Cathode	
⑦	Diode	—	Common / Anode Cathode	
⑧	Diode	T	Common / Anode Anode	
⑨	Diode	—	Common / Anode Anode	
⑩	Diode	T	Common / Cathode Cathode	
⑪	Diode	—	Common / Cathode Cathode	
⑫	Diode	|	Anode Anode Cathode / Cathode Anode Anode	
⑬	Transistor (FET)	|	Drain / Source Gate	
⑭	Transistor (FET)	⊢	Drain / Source Gate	
⑮	Transistor (FET)	|	□ Source □ Drain □ Gate	
⑯	Transistor	|	□ Emitter □ Collector □ Base	
—	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

Ver.1.6

(1) Schematic Diagram of A1 Board

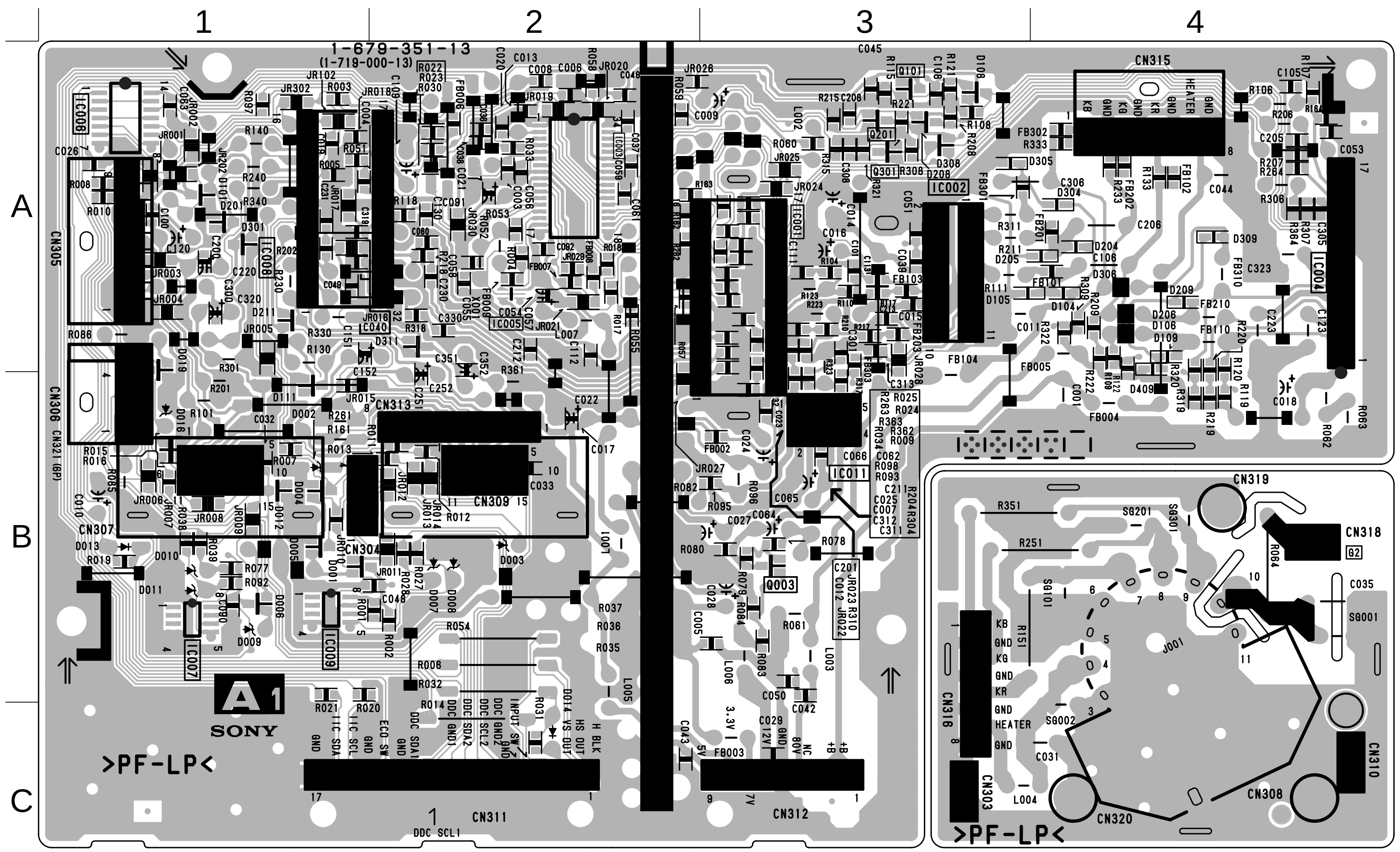


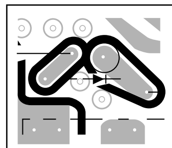
• **A BOARD WAVEFORMS**

①	②	③	④	⑤	⑥	⑦
0.74 Vp-p (H)	1.12 Vp-p (H)	0.73 Vp-p (H)	56.0 Vp-p (H)	54.5 Vp-p (H)	54.5 Vp-p (H)	1.24 Vp-p (24.5 MHz)

Schematic diagram
A1 board ➡

— A1 BOARD —





NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

- **A1 BOARD SEMICONDUCTOR LOCATION**

IC	
IC001	A-3
IC002	A-3
IC003	A-2
IC004	A-4
IC005	A-2
IC006	A-1
IC007	B-1
IC008	A-1
IC011	B-3

TRANSISTOR		✱
Q101	A-3	①
Q201	A-3	①
Q301	A-3	①

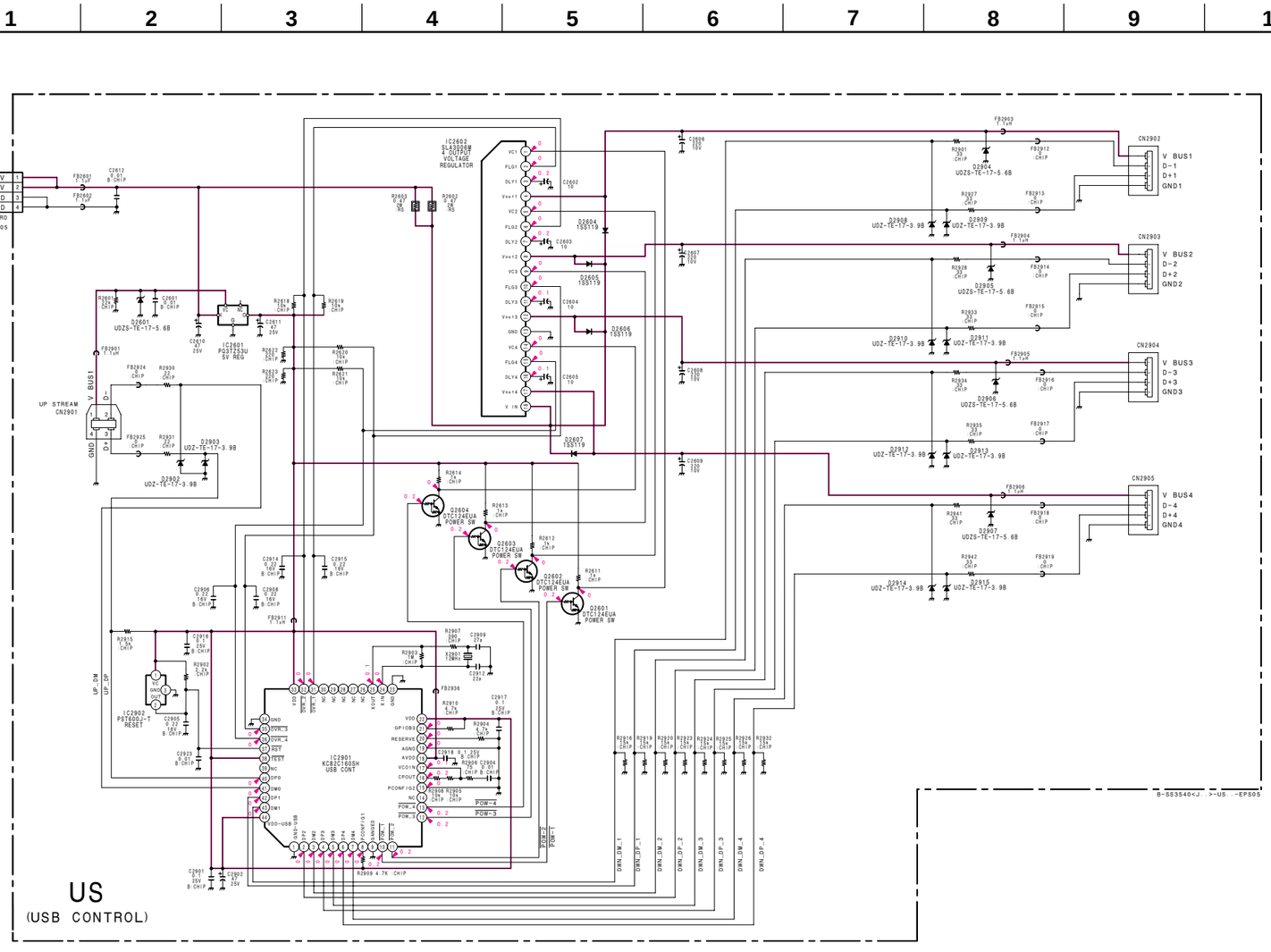
DIODE		
D002	B-1	-
D004	B-1	⑥
D006	B-1	⑧
D009	B-1	-
D010	B-1	-
D011	B-1	-
D012	B-1	⑥
D013	B-1	-
D014	C-2	-
D016	B-1	-
D019	A-1	⑥
D101	A-1	⑥
D104	A-4	③
D105	A-3	③
D106	A-4	-
D108	A-3	⑩
D111	B-1	⑥
D201	A-1	⑥
D204	A-4	②
D205	A-3	③
D206	A-4	-
D208	A-3	⑩
D211	A-1	⑥
D301	A-1	⑥
D304	A-4	③
D305	A-3	③
D306	A-4	-
D308	A-3	⑩
D311	A-2	⑥

CRYSTAL	
X001	A-2

✱: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-10)

(2) Schematic Diagram of US Board

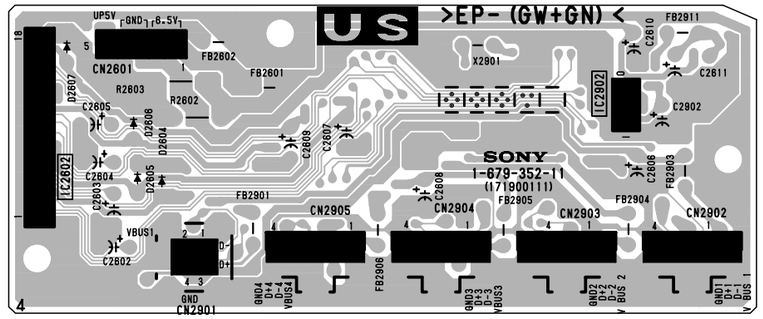
US ［USB CONTROL］



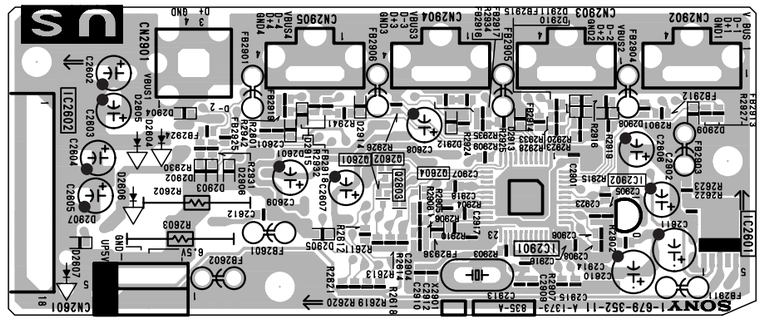
Schematic diagram

US board ➡

— US BOARD (Conductor Side) —



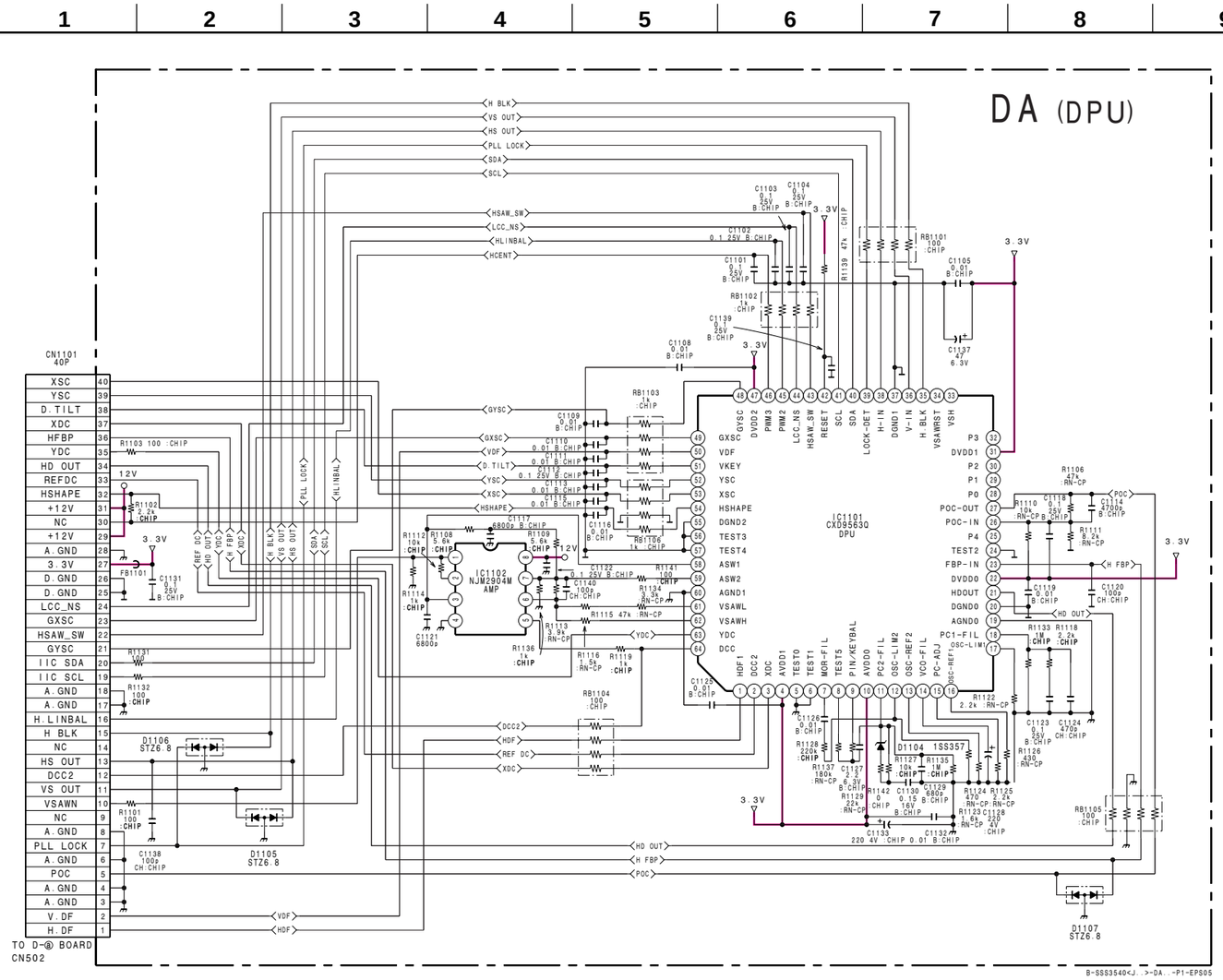
— US BOARD (Component Side) —



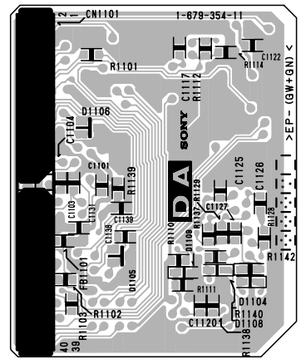
US BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
D2601, D2902 - D2915	③
Q2601 - Q2604	②

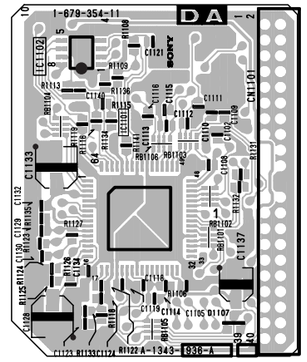
∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-10)



— DA BOARD (Conductor Side) —



— DA BOARD (Component Side) —



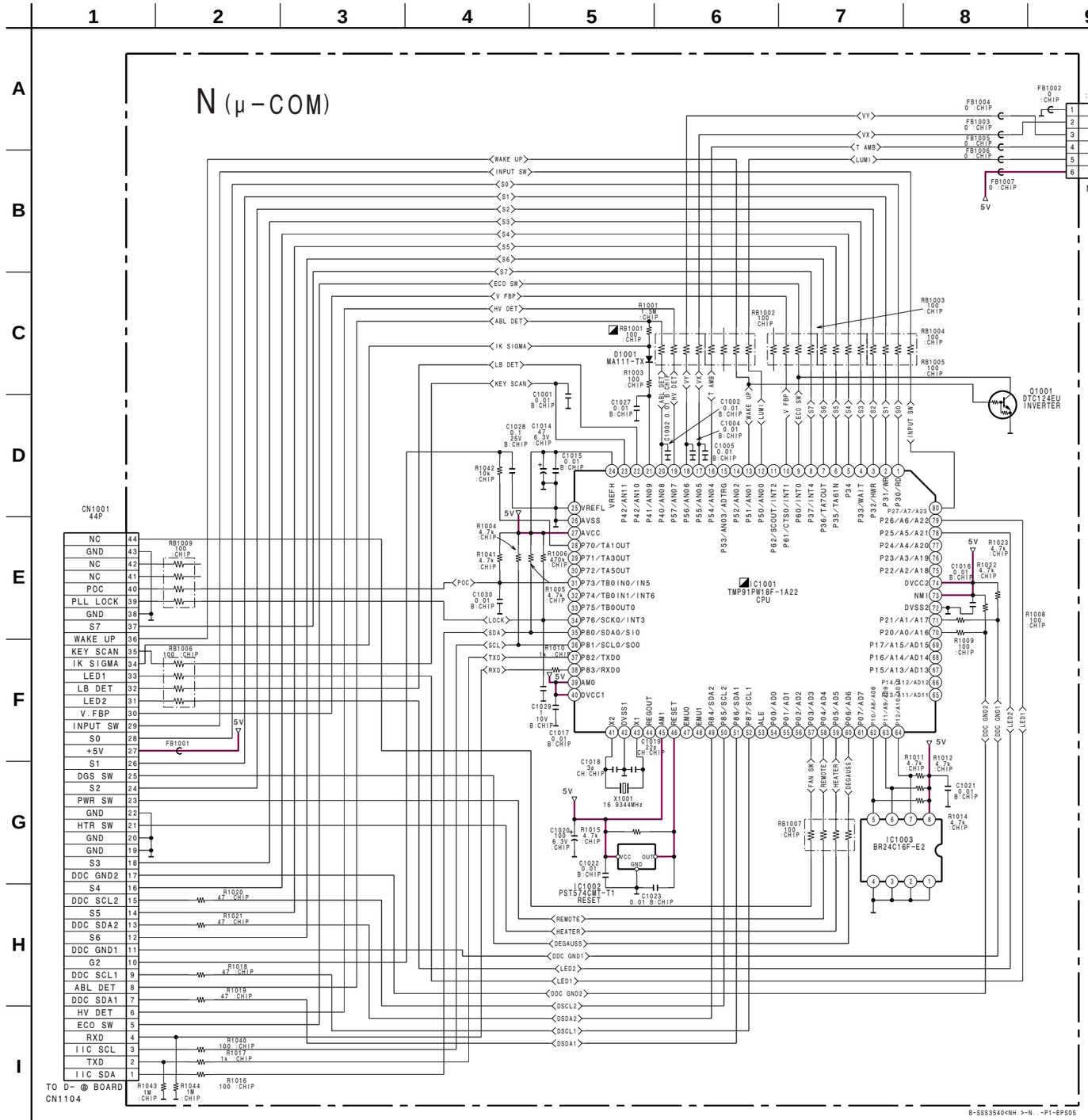
DA BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
D1104	③
D1105 - D1107	⑩

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-10)

(4) Schematic Diagram of N Board

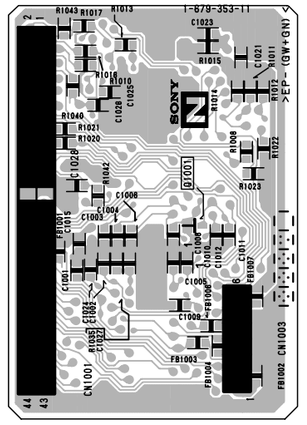
N [µ-COM]



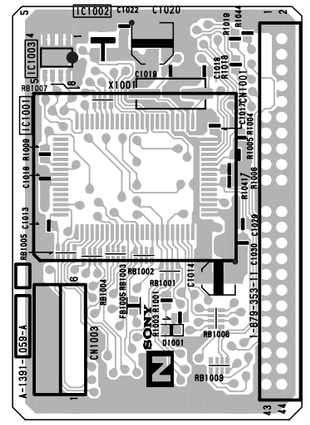
Schematic diagram

← **DA** board

— N BOARD (Conductor Side) —



— N BOARD (Component Side) —



N BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
D1001	③
Q1001	①

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-10)

Schematic diagram

N board →

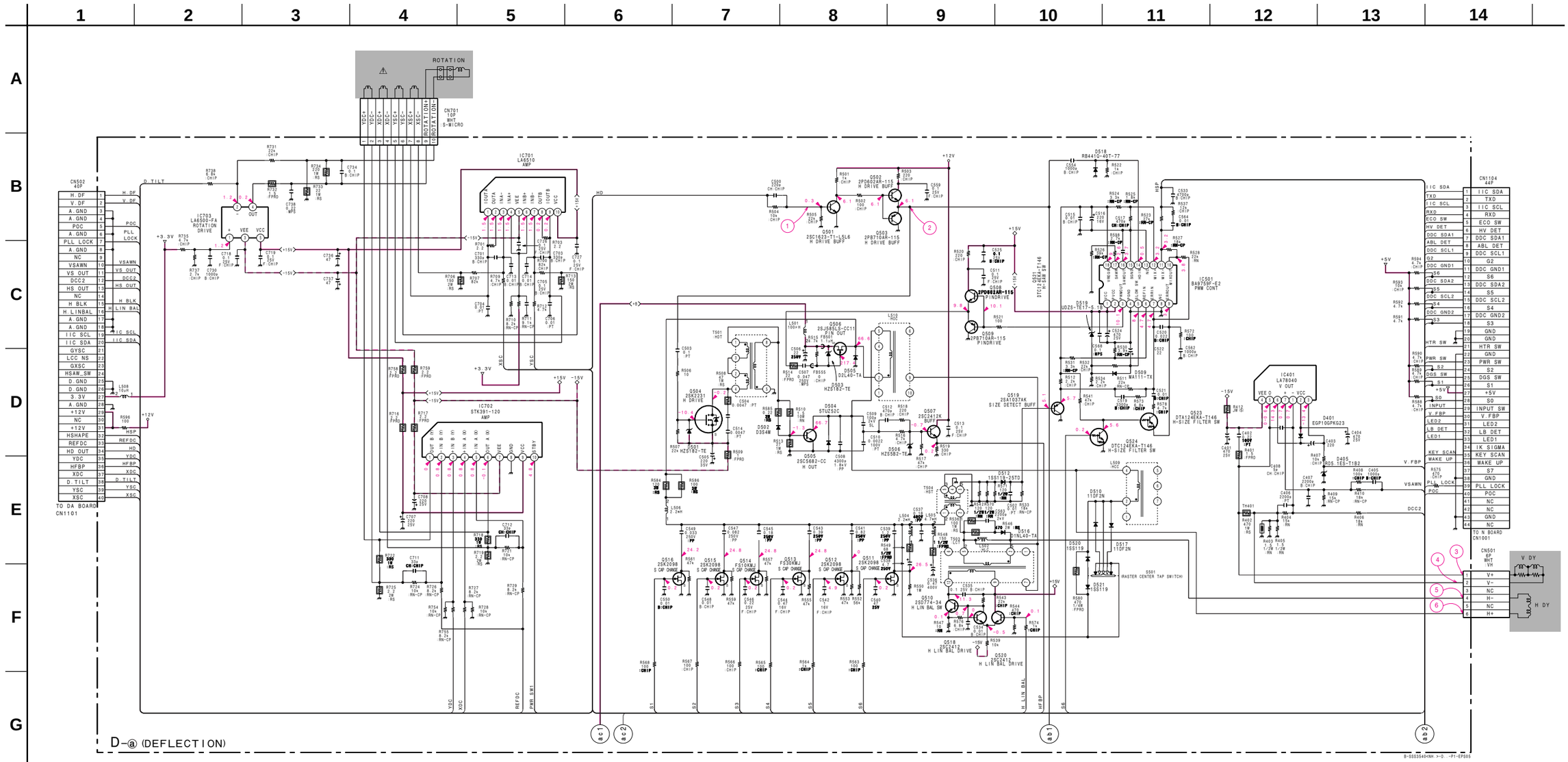
(5) Schematic Diagrams of D (ⓐ, ⓑ, ⓒ) Board

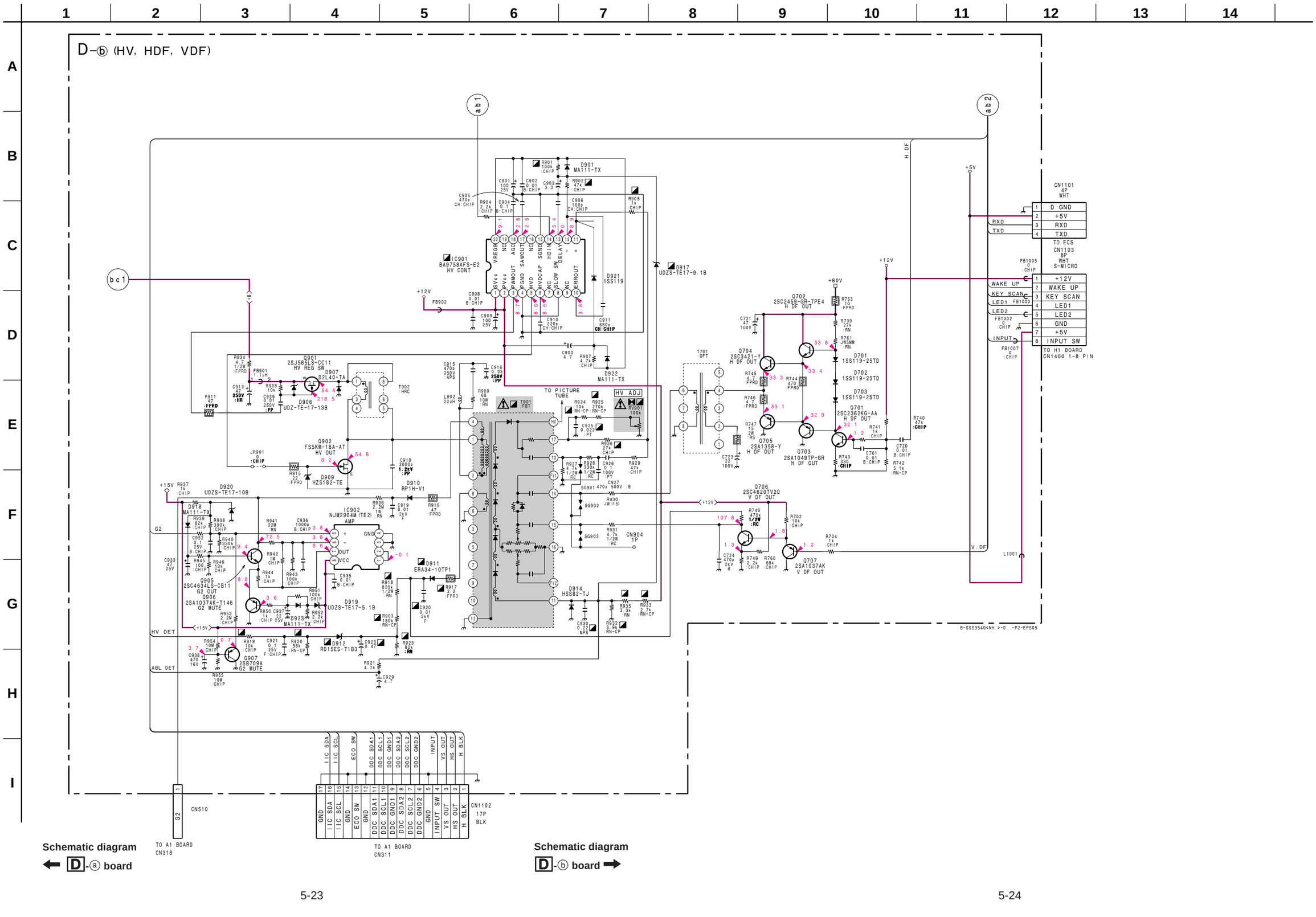
- Divided circuit diagram
  One sheet of D board circuit diagram is divided into three sheets, each having the code D-ⓐ to D-ⓒ. For example, the destination ab1 on the code D-ⓐ sheet is connected to ab1 on the D-ⓑ sheet.

a b 1
- Ref. No.
- Circuit diagram division code

• D-ⓐ BOARD WAVEFORMS

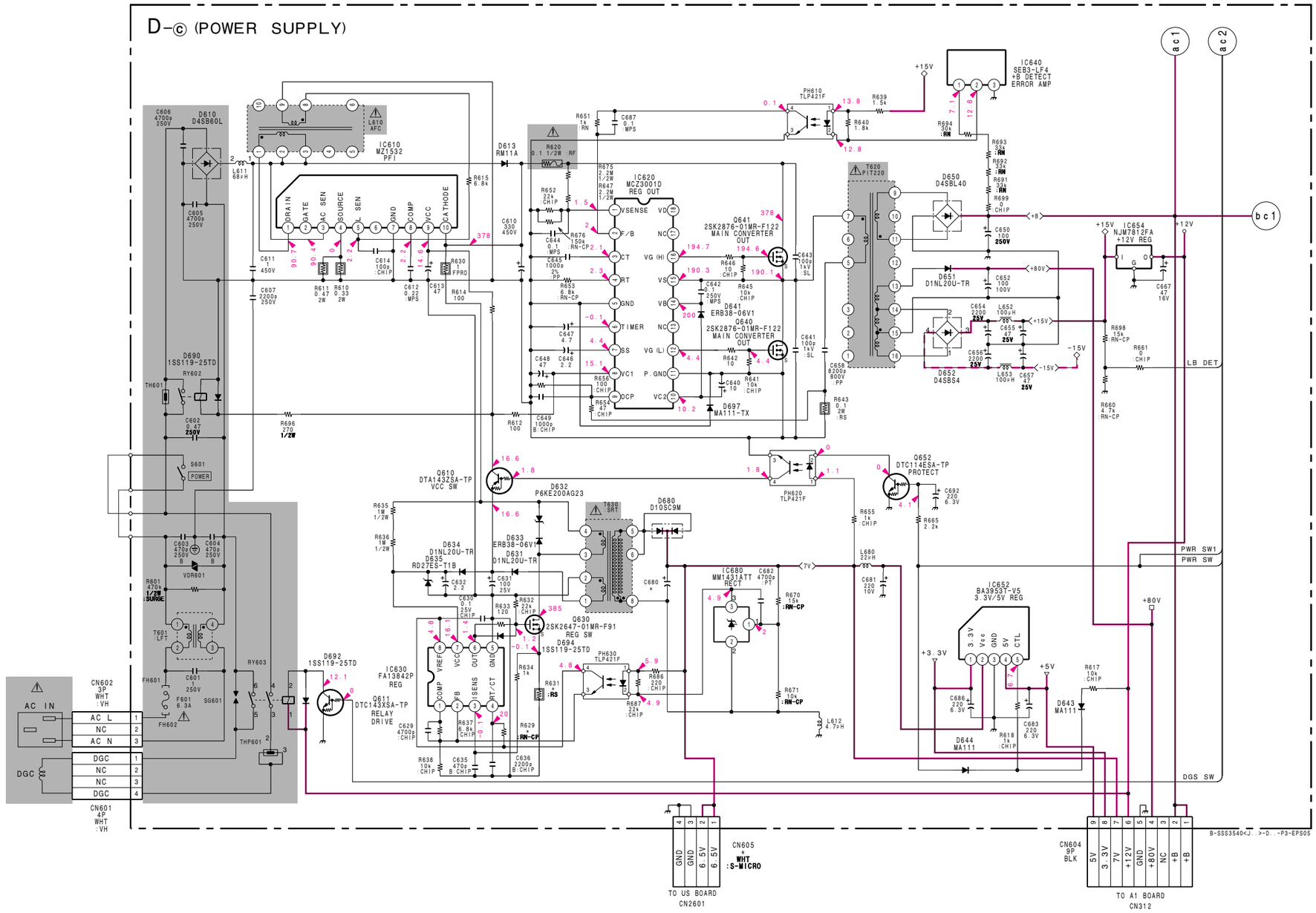
①	②	③	④	⑤	⑥
0.71 Vp-p (H)	11.3 Vp-p (H)	59.5 Vp-p (V)	1.7 Vp-p (V)	180 Vp-p (H)	640 Vp-p (H)



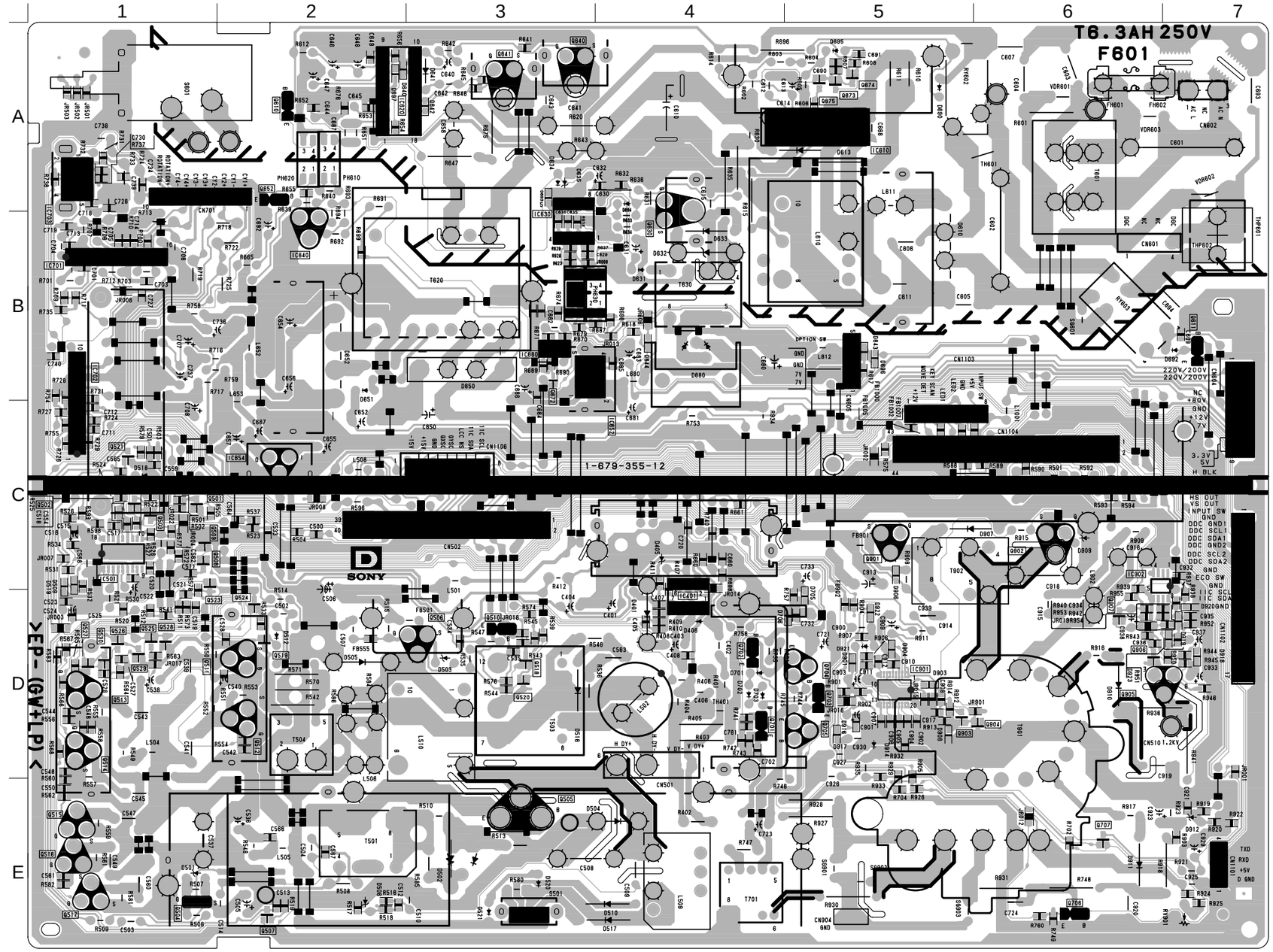


Schematic diagram
← D-ⓐ board

Schematic diagram
D-ⓑ board →


D-© (POWER SUPPLY)
IC610 MZ1532 PFI
IC620 MCZ3001D REG OUT
IC640 SEB3-LF4 +B DETECT ERROR AMP
IC630 FA13842P REG
IC652 BA3953T-V5 3.3V/5V REG
IC654 NJM7812FA +12V REG
IC680 MM1431ATT RECT
Q641 2SK2876-01MR-F122 MAIN CONVERTER OUT
Q640 2SK2876-01MR-F122 MAIN CONVERTER OUT
Q630 2SK2647-01MR-F91 REG SW
Q610 DTA143ZSA-TP VCC SW
Q611 DTC143XSA-TP RELAY DRIVE
Q652 DTC114ESA-TP PROTECT
D610 D4SB60L
D650 D4SBL40
D652 D4SBS4
D690 1SS119-25TD
D692 1SS119-25TD
D694 1SS119-25TD
D697 MA111-TX
D641 ERB38-06V1
D633 ERB38-06V1
D632 P6KE200AG23
D680 D10SC9M
D651 D1NL20U-TR
D634 D1NL20U-TR
D631 D1NL20U-TR
D635 RD27ES-T1B
D613 RM11A
D643 MA111
D644 MA111
PH610 TLP421F
PH620 TLP421F
PH630 TLP421F
T620 PIT220
T630 SRT
T601 :LFT
L610 AFC
L611 68μH
L612 4.7μH
L680 22μH
S601 POWER
RY602
RY603
TH601
THP601
VDR601
FH601
FH602
F601 6.3A 250V
SG601
AC IN
DGC
CN602 3P WHT :VH
AC L
NC
AC N
CN601 4P WHT :VH
DGC
NC
NC
DGC
CN605 * WHT :S-MICRO
GND
GND
6.5V
6.5V
TO US BOARD CN2601
CN604 9P BLK
5V
3.3V
7V
+12V
GND
+80V
NC
+B
+B
TO A1 BOARD CN312
B-SSS3540<J..>-D..-P3-EPS05
a c 1
a c 2
b c 1
+B
+80V
+15V
+12V
+7V
+5V
+3.3V
-15V
PWR SW1
PWR SW
DGS SW
LB DET

— D BOARD —



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

Schematic diagram

← D-ⓒ board

- **D BOARD SEMICONDUCTOR LOCATION**

IC		
IC401	D-4	
IC501	C-1	
IC610	A-5	
IC620	A-2	
IC630	B-3	
IC640	B-2	
IC652	B-3	
IC654	C-2	
IC680	B-3	
IC701	B-1	
IC702	B-1	
IC703	A-1	
IC901	D-5	
IC902	C-6	

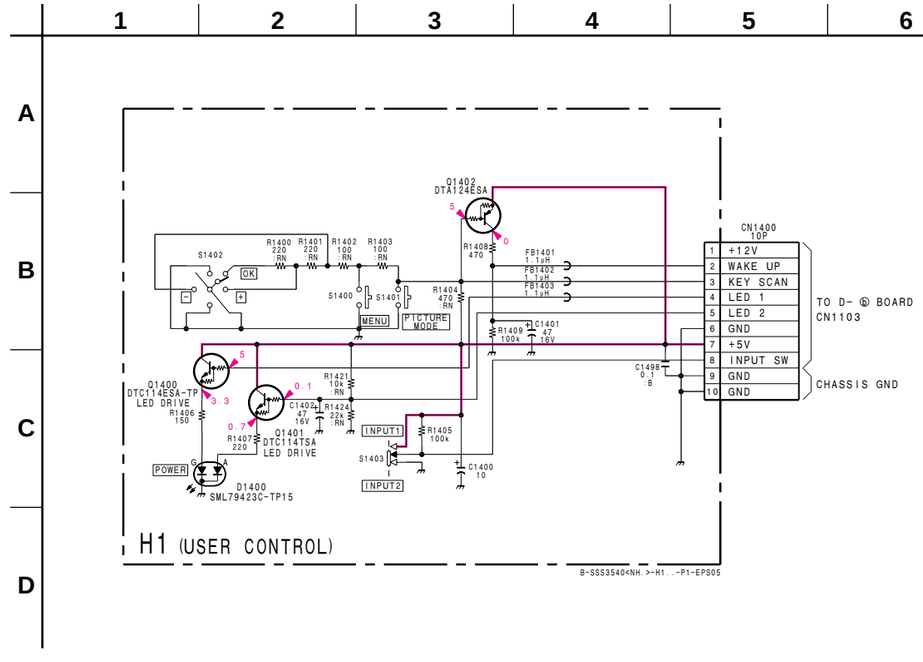
TRANSISTOR		
		*
Q501	C-1	①
Q502	C-1	①
Q503	C-1	①
Q504	E-1	-
Q505	E-3	-
Q506	D-3	-
Q507	E-2	①
Q508	C-1	①
Q509	C-1	①
Q510	D-3	-
Q511	D-2	-
Q512	D-2	-
Q513	D-1	-
Q514	D-1	-
Q515	E-1	-
Q516	E-1	-
Q517	E-1	-
Q519	D-2	①
Q521	C-1	①
Q523	C-1	①
Q524	D-2	①
Q610	A-2	-
Q611	B-7	-
Q630	B-4	-
Q640	A-3	-
Q641	A-3	-
Q652	A-2	-
Q701	D-4	-
Q702	D-4	-
Q703	D-5	-
Q704	D-5	-
Q705	D-5	-
Q706	E-6	-
Q707	E-6	①
Q901	C-5	-
Q902	C-6	-
Q903	D-5	①
Q904	D-5	①
Q905	D-6	-
Q906	D-6	①
Q907	D-6	①

DIODE		
		*
D401	D-4	-
D405	C-4	-
D406	D-4	-
D501	E-1	-
D502	E-3	-
D503	D-3	-
D504	E-4	-
D505	D-2	-
D506	E-2	-
D509	C-1	③
D510	E-4	-
D512	D-2	-
D516	D-3	-
D517	E-4	-
D518	C-1	-
D519	C-1	③
D520	E-3	-
D521	E-3	-
D610	B-5	-
D613	A-5	-
D631	B-4	-
D632	B-4	-
D633	B-4	-
D634	A-3	-
D635	A-3	-
D641	A-3	-
D643	B-5	③
D644	B-4	③
D650	B-3	-
D651	B-2	-
D652	B-2	-
D680	B-4	-
D690	A-5	-
D692	B-7	-
D694	A-4	-
D697	A-2	③
D701	D-4	-
D702	D-4	-
D703	D-4	-
D901	D-5	③
D906	C-5	③
D907	C-5	-
D909	C-6	-
D910	D-6	-
D911	E-6	-
D912	E-7	-
D914	D-5	-
D917	D-5	③
D918	D-7	③
D919	D-7	③
D920	D-7	③
D921	D-5	-
D922	D-5	③
D923	D-7	③

VARIABLE RESISTOR	
RV901	E-7

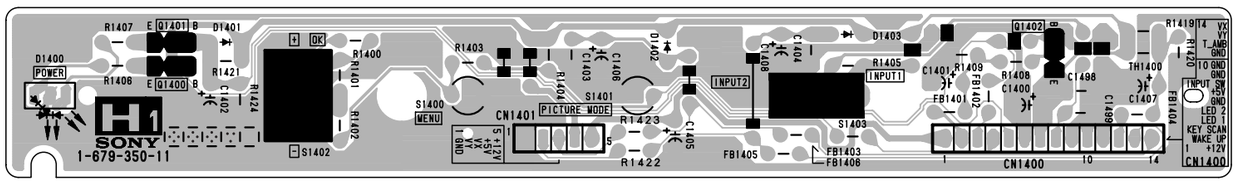
∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-10)

(6) Schematic Diagram of H1 Board



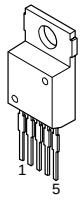
H1 [USER CONTROL]

– H1 BOARD –

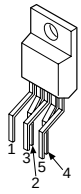


5-5. SEMICONDUCTORS

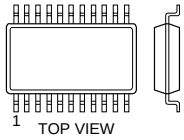
BA00AST-V5
LA6500-FA



BA3953T-V5

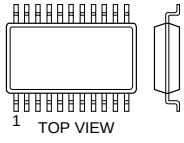


BA9758AFS-E2
BA9758FS-E2



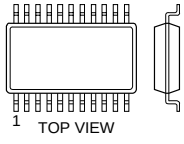
20pin SOP

BA9759F-E2



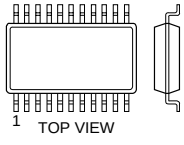
18pin SOP

BR24C16F-E2
BR24C21F-E2
NJM2904M
NJM2904M(TE2)



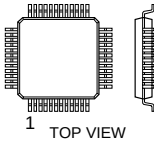
8pin SOP

CXD9548M



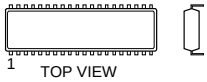
34pin SOP

CXD9563Q



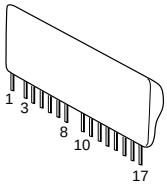
64pin QFP

FA13842P



8pin DIP

H8D3060



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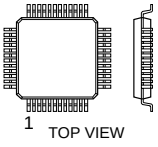
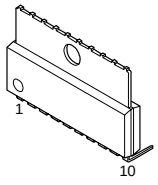
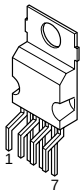


44pin QFP

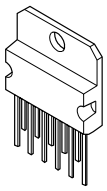
LA6510



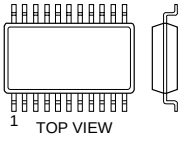
LA78040



LM2412AT
LM2412T



MB88141PF-ER



24 pin SOP

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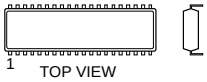

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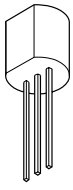

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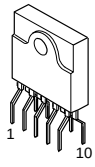

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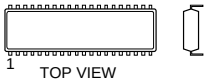
MM1470AD



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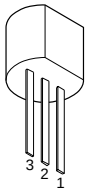

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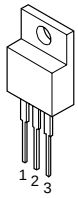

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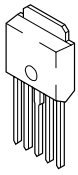

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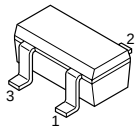

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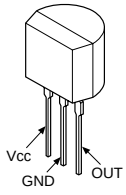

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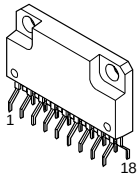

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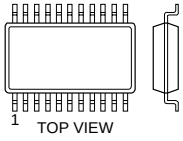
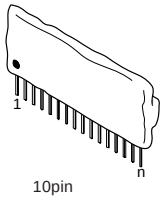


14pin SOP

STK391-120



10pin

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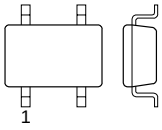
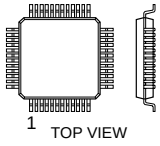


5pin Chip

TMP91PW18F-1A22 (Z)



80pin QFP

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DTC124EK
DTC124EKA-T146
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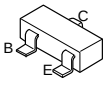
2PD602AR-115
2SA1037AK-T146-QR
2SA1037AK-T146-R
2SA1162-G
2SB709A-QRS-TX
2SC1623-L5L6
2SC1623-T1-L5L6
2SC2412K-T-146-Q
2SC2412K-T-146-QR



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DTC143XSA-TP
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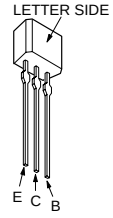

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DTC114TSA-TP
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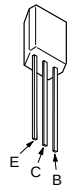

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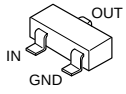
DTC124EUT106



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FS30KMJ-3-AZ
FS5KM-18A-AT
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2SJ585LS-CB11
2SK2098-01MR-F119
2SK2876-01MR-F122
2SK3155-01
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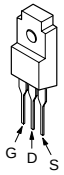

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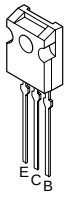

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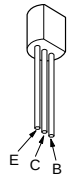

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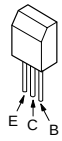

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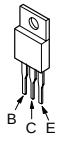

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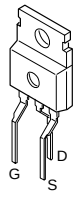

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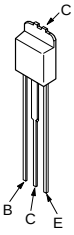

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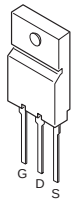
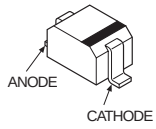
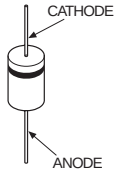


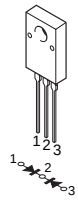
DTZ10B
DTZ13B
MA111-(K8).S0
MA111-TX
UDZ-TE-17-13B
UDZ-TE-17-3.9B
UDZS-TE17-10B
UDZS-TE17-5.1B
UDZS-TE17-5.6B
UDZS-TE17-9.1B
1SS357-TPH3



D1NL20U-TR
D1NL20U-TR2
D1NL40-TA
D1NL40-TA2
D2L40-TA
ERA34-10TP1
ERB38-06V1
HSS82-TJ
HZS5B2-TE
NNCD5.6A-T1
P6KE200AG23
RGP02-17EL-6433
RGP02-20EL-6394
RP1H-V1
11DF2N-TA2B2



D10SC9M



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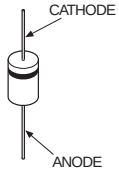
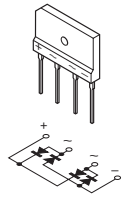
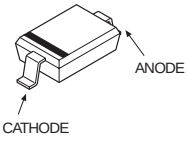
EGP10GPKG23
ERC81-004



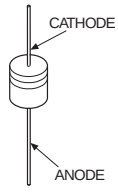
D4SB60L
D4SBL40
D4SBS4
D4SBS4-F



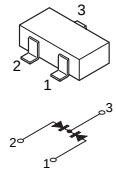
HSU83TRF



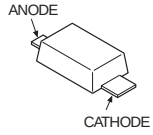
HZS182-TE
RB441Q-40T-77
RD15ES-B3
RD15ES-T1B3
RD18ESB
RD27ES-B2
RD27ES-T1B
RD5.1ES-T1B2
RD5.1ESB2
RD5.6ESB2
1SS119-25
1SS119-25TD



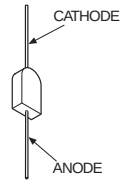
MA151WK-TX
1SS184



MA8039



RM11A
RM11C



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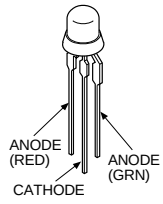
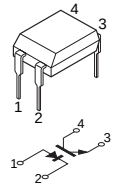


TLP421F (D4-SONY)



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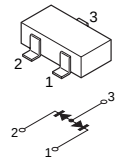

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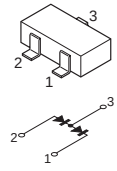
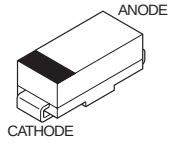
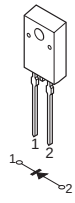


1SS376TE-17



5TUZ52C (SONY1)



SECTION 6
EXPLODED VIEWS

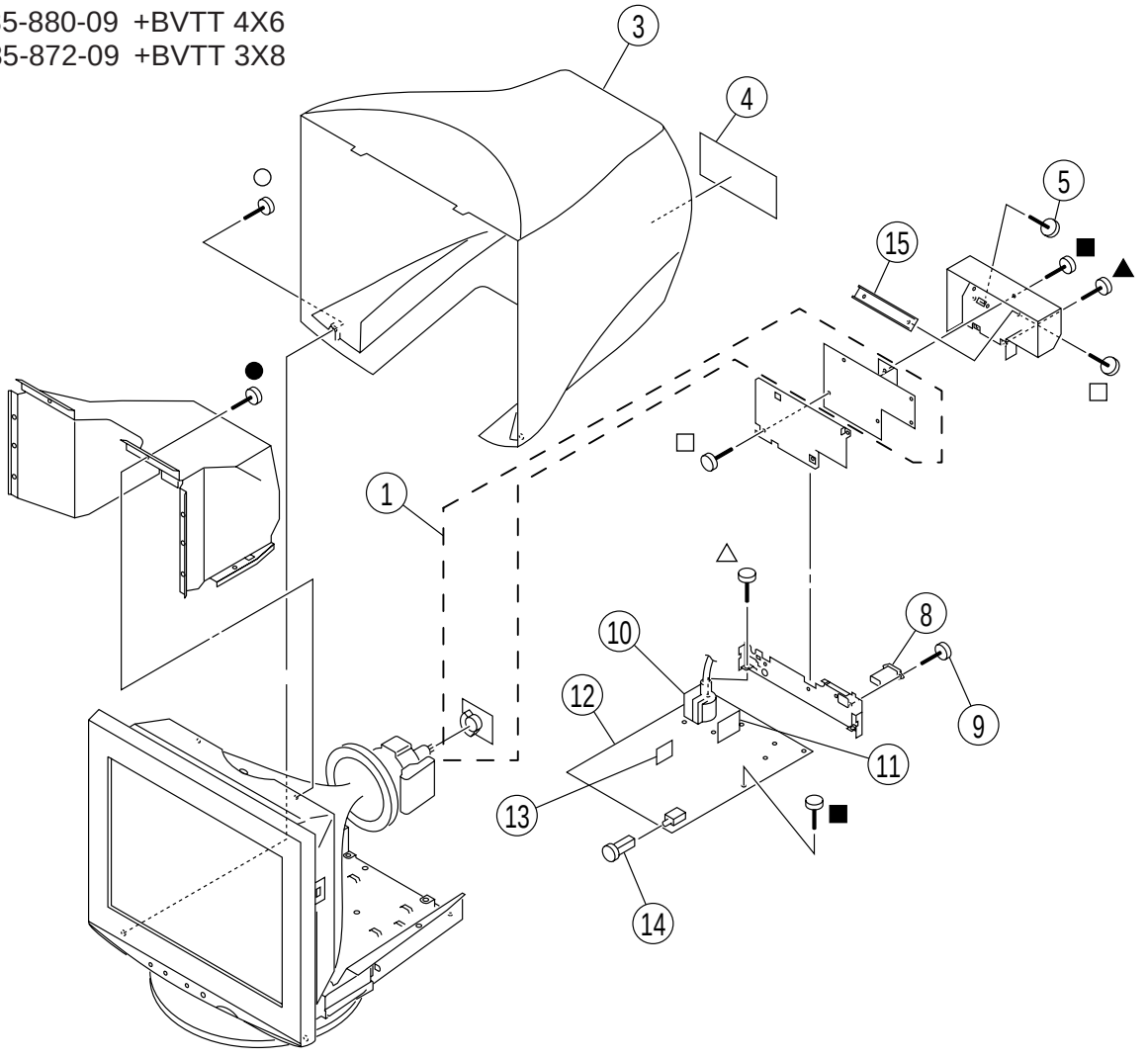
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS

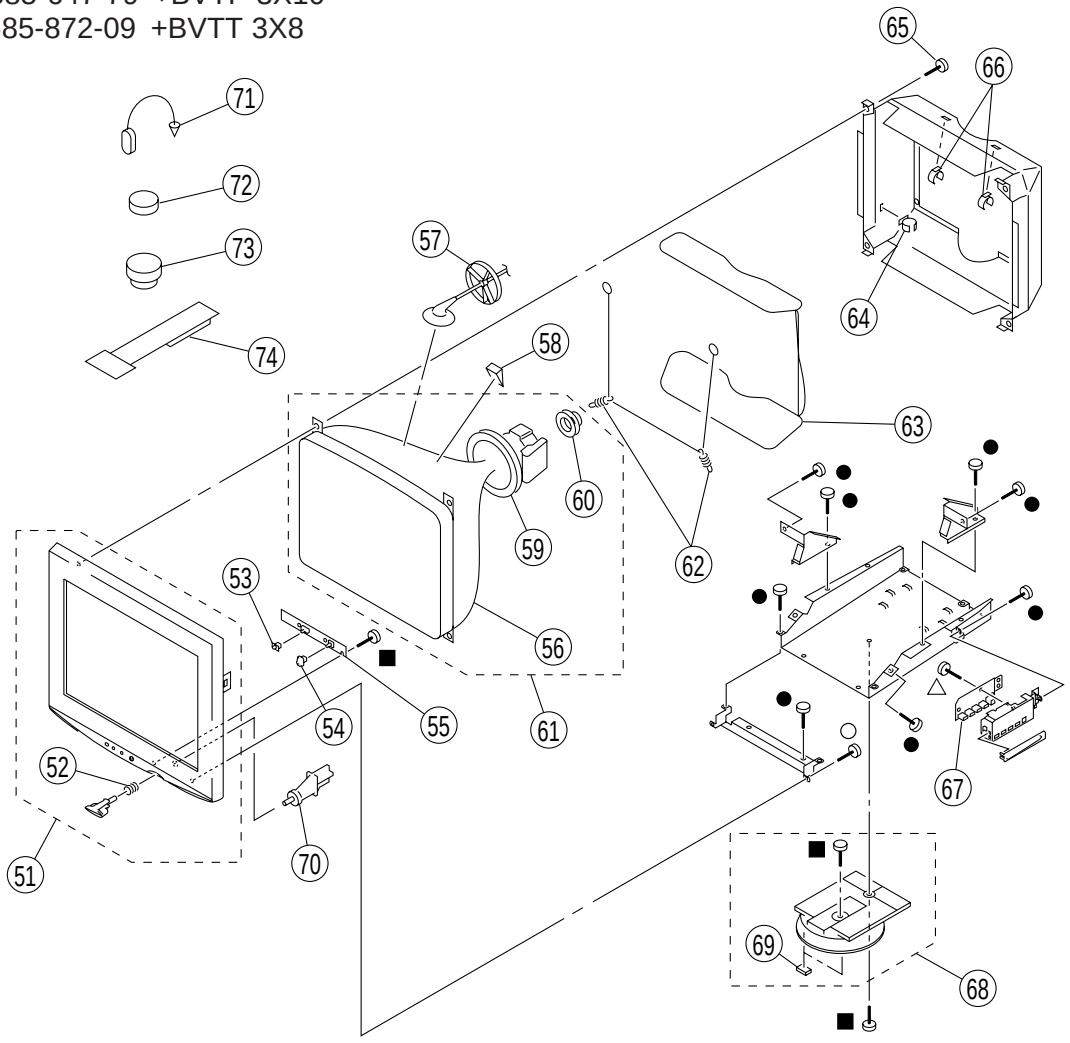
□ 7-685-646-79 +BVTP 3X8
○ 7-685-663-71 +BVTP 4X16
● 7-685-881-09 +BVTT 4X8
■ 7-685-647-79 +BVTP 3X10
▲ 7-685-880-09 +BVTT 4X6
△ 7-685-872-09 +BVTT 3X8



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	* A-1299-445-A	A1 BOARD, COMPLETE	
3	4-079-917-11	CABINET (19G)	
4	* 4-081-622-01	LABEL, INFORMATION	
5	* 4-635-966-01	SCREW (HEX)	
8	⚠ 1-251-382-31	INLET, AC (WITH NOISE FILTER)	
9	4-052-345-01	SCREW, (3X8) (+K), TAPPING	
10	⚠ 1-453-359-21	TRANSFORMER ASSY, FLYBACK	(NX-4702/KM7M)
11	* 8-933-471-00	N BOARD, COMPLETE	
12	* 8-933-468-00	D BOARD, COMPLETE	
13	* 8-933-469-00	DA BOARD, COMPLETE	
14	4-079-908-01	CAP, POWER	
15	1-694-763-11	TERMINAL BOARD ASSY, INPUT/OUT	

6-2. PICTURE TUBE

● 7-685-881-09 +BVTT 4X8
○ 7-685-663-71 +BVTP 4X16
■ 7-685-647-79 +BVTP 3X10
△ 7-685-872-09 +BVTT 3X8

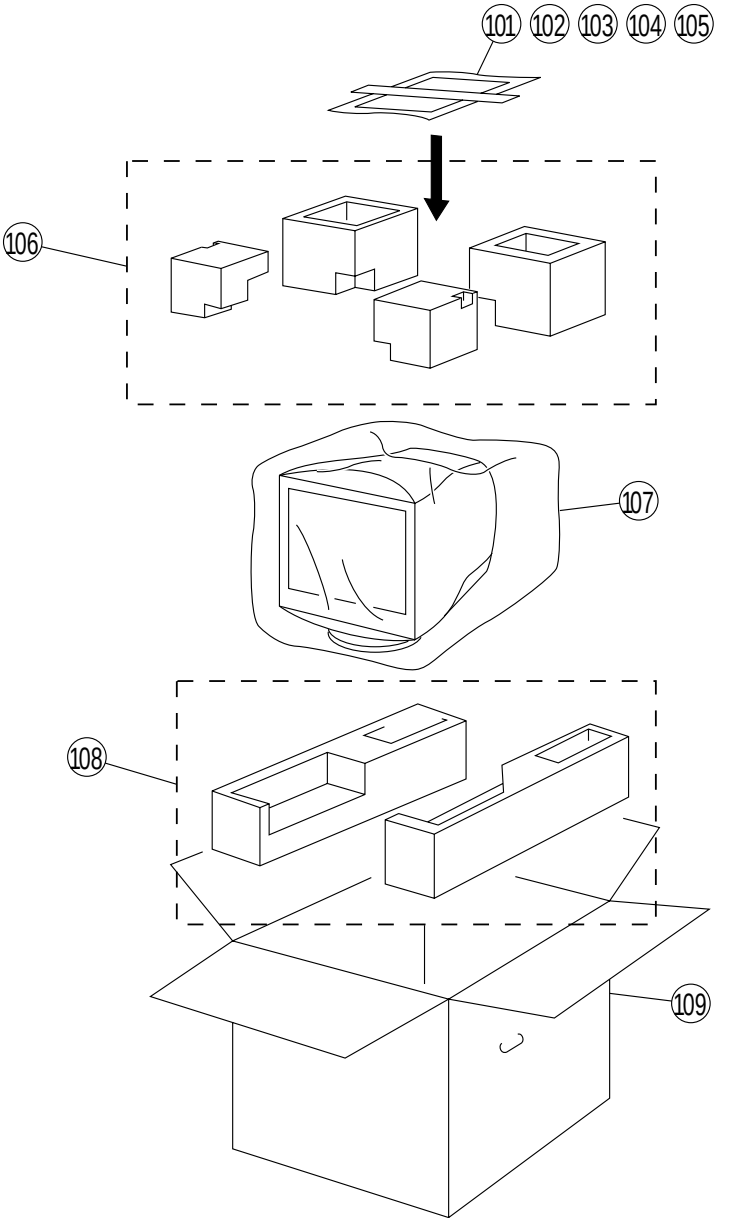


The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4038-431-1	BEZEL ASSY	52
52	4-042-593-01	SPRING COMPRESSION	
53	4-079-773-01	BUTTON, INPUT SELECTER	
54	4-079-788-01	STICK, JOY	
55	*8-933-470-00	H1 BOARD, COMPLETE	
56	⚠8-736-407-05	PICTURE TUBE 19TKC (SDP)	
57	3-704-372-01	HOLDER, HV CABLE	
58	2-162-100-21	SPACER, DY	
59	⚠8-451-518-11	DEFRECTION YOKE Y19TKL-M	
60	⚠1-452-923-51	NECK ASSEMBLY	
61	⚠8-738-031-06	ITC ASSY (19TKC-R3)	56, 59, 60
62	*4-047-316-01	SPRING, EXTENTION	
63	⚠1-419-285-21	COIL, DEGAUSSING	
64	4-071-175-01	HOLDER, DGC	
65	4-365-808-01	SCREW (5), TAPPING	
66	4-041-021-02	HOLDER, DEGAUSE COIL	
67	*8-933-480-00	US BOARD, COMPLETE	
68	X-4038-402-1	STAND BASE ASSY	69
69	*4-061-996-01	CUSHION	
70	4-079-912-01	BAR, EXTENSION (19)	
71	4-308-870-00	CLIP, LEAD WIRE	
72	1-452-032-00	MAGNET, DISK; 10mmϕ	
73	1-452-094-00	MAGNET, ROTATABLE DISK; 15mmϕ	
74	4-051-736-21	PIECE A (90), CORRECT	

6-3. PACKING MATERIALS



The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.		PART NO.	DESCRIPTION	REMARK
101	⚠	1-782-784-21	CORD SET, POWER	
102		1-785-512-31	CONNECTOR, D SUB (15P CHANGER)	
103		1-790-081-21	CABLE, USB	
104		4-079-771-51	MANUAL, INSTRUCTION	
105		1-757-496-11	CABLE ASSY (15P SUB X2 CONNECTOR)	
106		* 4-081-970-01	CUSHION (UPPER) (ASSY)	
107		* 4-041-927-31	BAG, POLYETHYLENE	
108		* 4-081-971-01	CUSHION (LOWER) (ASSY)	
109		* 4-081-969-01	INDIVIDUAL CARTON	

SECTION 7
ELECTRICAL PARTS LIST

A1

NOTE:

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

RESISTORS
- All resistors are in ohms
- F : nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
		A1 BOARD, COMPLETE			
		**********			
	4-382-854-11	SCREW (3X10), P, SW (+) (IC002)			
		<CAPACITOR>			
C001	1-162-318-11	CERAMIC	0.001µF	10%	500V
C004	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C005	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C007	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C009	1-126-960-11	ELECT	1µF	20%	50V
C010	1-104-664-11	ELECT	47µF	20%	10V
C011	1-106-220-00	MYLAR	0.1µF	10%	100V
C012	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C014	1-107-930-91	ELECT	22µF	20%	100V
C015	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C016	1-128-528-11	ELECT	470µF	20%	16V
C017	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C018	1-107-649-11	ELECT	2.2µF	20%	250V
C019	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C021	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C022	1-104-664-11	ELECT	47µF	20%	10V
C023	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C024	1-107-909-11	ELECT	47µF	20%	16V
C025	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C026	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C027	1-126-785-11	ELECT	47µF	20%	10V
C029	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C031	1-162-318-11	CERAMIC	0.001µF	10%	500V
C032	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C035	1-104-574-11	CERAMIC	0.0047µF	10%	2KV
C036	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C037	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C038	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C039	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C040	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C042	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C043	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C045	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C046	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C049	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C050	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C051	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C053	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C054	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C055	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C057	1-104-664-11	ELECT	47µF	20%	25V
C058	1-163-224-11	CERAMIC CHIP	7pF	0.25pF	50V
C059	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C061	1-163-255-11	CERAMIC CHIP	150pF	5%	50V
C062	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C063	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C064	1-126-382-11	ELECT	100µF	20%	16V
C065	1-107-882-91	ELECT	100µF	20%	16V
C090	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C091	1-126-960-11	ELECT	1µF	20%	50V
C092	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C101	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C105	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C106	1-137-857-21	MYLAR	0.47µF	10%	250V
C108	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C109	1-104-664-11	ELECT	47µF	20%	25V
C111	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C120	1-104-664-11	ELECT	47µF	20%	25V
C123	1-136-189-00	MYLAR	0.1µF	10%	250V
C130	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C152	1-104-664-11	ELECT	47µF	20%	25V
C201	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C205	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C206	1-137-857-21	MYLAR	0.47µF	10%	250V
C208	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C211	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C220	1-104-664-11	ELECT	47µF	20%	25V
C223	1-136-189-00	MYLAR	0.1µF	10%	250V
C230	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C231	1-163-085-00	CERAMIC CHIP	2pF	0.25pF	50V
C252	1-104-664-11	ELECT	47µF	20%	25V
C301	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C305	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C306	1-137-857-21	MYLAR	0.47µF	10%	250V
C308	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C311	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C319	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C320	1-104-664-11	ELECT	47µF	20%	25V
C323	1-136-189-00	MYLAR	0.1µF	10%	250V

A1

REF.NO.	PART NO.	DESCRIPTION	REMARK
C330	1-164-489-11	CERAMIC CHIP 0.22µF 10% 16V	
C352	1-104-664-11	ELECT 47µF 20% 25V	
		<CONNECTOR>	
CN303	1-695-915-11	TAB (CONTACT)	
CN315*	1-778-682-11	PIN, CONNECTOR (PC BOARD) 8P	
CN318	1-764-101-11	PIN, CONNECTOR (PC BOARD) 2P	
		<DIODE>	
D002	8-719-109-89	ZENER DIODE RD5.6ESB2	
D004	8-719-062-51	DIODE 1PS226-115	
D006	8-719-801-78	DIODE 1SS184	
D009	8-719-109-89	ZENER DIODE RD5.6ESB2	
D010	8-719-109-89	ZENER DIODE RD5.6ESB2	
D011	8-719-109-89	ZENER DIODE RD5.6ESB2	
D012	8-719-062-51	DIODE 1PS226-115	
D013	8-719-911-19	DIODE 1SS119-25	
D014	8-719-911-19	DIODE 1SS119-25	
D016	8-719-109-89	ZENER DIODE RD5.6ESB2	
D019	8-719-062-51	DIODE 1PS226-115	
D101	8-719-062-51	DIODE 1PS226-115	
D104	8-719-052-12	DIODE 1SS376TE-17	
D105	8-719-052-12	DIODE 1SS376TE-17	
D106	8-719-970-83	DIODE HSS82-TJ	
D108	8-719-066-10	DIODE 1PS181-115	
D111	8-719-062-51	DIODE 1PS226-115	
D201	8-719-062-51	DIODE 1PS226-115	
D204	8-719-052-12	DIODE 1SS376TE-17	
D205	8-719-052-12	DIODE 1SS376TE-17	
D206	8-719-970-83	DIODE HSS82-TJ	
D208	8-719-066-10	DIODE 1PS181-115	
D211	8-719-062-51	DIODE 1PS226-115	
D301	8-719-062-51	DIODE 1PS226-115	
D304	8-719-052-12	DIODE 1SS376TE-17	
D305	8-719-052-12	DIODE 1SS376TE-17	
D306	8-719-970-83	DIODE HSS82-TJ	
D308	8-719-066-10	DIODE 1PS181-115	
D311	8-719-062-51	DIODE 1PS226-115	
		<FERRITE BEAD>	
FB002	1-216-295-11	SHORT 0	
FB003	1-412-911-11	FERRITE 1.1µH	
FB004	1-412-911-11	FERRITE 1.1µH	
FB005	1-412-911-11	FERRITE 1.1µH	
FB006	1-216-295-11	SHORT 0	
FB007	1-216-295-11	SHORT 0	
FB008	1-216-295-11	SHORT 0	
FB009	1-414-231-22	INDUCTOR	
FB101	1-216-295-11	SHORT 0	
FB102	1-469-965-21	INDUCTOR	
FB103	1-216-295-11	SHORT 0	
FB104	1-412-911-11	FERRITE 1.1µH	
FB110	1-412-911-11	FERRITE 1.1µH	
FB201	1-216-295-11	SHORT 0	
FB202	1-469-965-21	INDUCTOR	
FB203	1-216-295-11	SHORT 0	
FB210	1-412-911-11	FERRITE 1.1µH	
FB301	1-216-295-11	SHORT 0	
FB302	1-469-965-21	INDUCTOR	
FB303	1-216-295-11	SHORT 0	
FB310	1-412-911-11	FERRITE 1.1µH	
		<IC>	
IC001	8-759-680-73	IC M61312SP	
IC002	8-759-824-97	IC LM2412AT	
IC003	8-759-681-38	IC CXD9548M	
IC004	8-749-018-09	IC H8D3060	
IC005	8-759-058-60	IC TC7SU04FU(TE85R)	
IC006	8-759-584-98	IC SN74AHCT04NSR	
IC007	8-759-697-54	IC BR24C21F-E2	
IC008	8-759-680-71	IC MM1470AD	
IC011	8-759-592-79	IC BA00AST-V5	
		<JACK>	
J001	⚠1-451-524-11	SOCKET, PICTURE TUBE	
		<CHIP CONDUCTOR>	
JR001	1-216-296-91	SHORT 0	
JR002	1-216-296-91	SHORT 0	
JR005	1-216-296-91	SHORT 0	
JR007	1-216-295-11	SHORT 0	
JR008	1-216-296-91	SHORT 0	
JR009	1-216-296-91	SHORT 0	
JR015	1-216-295-11	SHORT 0	
JR016	1-216-296-91	SHORT 0	
JR017	1-216-296-91	SHORT 0	
JR019	1-216-296-91	SHORT 0	
JR020	1-216-296-91	SHORT 0	
JR021	1-216-296-91	SHORT 0	
JR022	1-216-295-11	SHORT 0	
JR023	1-216-295-11	SHORT 0	
JR024	1-216-296-91	SHORT 0	
JR025	1-216-296-91	SHORT 0	
JR026	1-216-295-11	SHORT 0	
JR027	1-216-296-91	SHORT 0	
JR028	1-216-296-91	SHORT 0	
JR029	1-216-295-11	SHORT 0	
JR030	1-216-296-91	SHORT 0	
		<COIL>	
L001	1-412-537-31	INDUCTOR 100µH	
L002	1-412-549-11	INDUCTOR 1mH	
L003	1-412-537-31	INDUCTOR 100µH	
L004	1-412-529-11	INDUCTOR 22µH	
L005	1-412-537-31	INDUCTOR 100µH	

REF.NO.	PART NO.	DESCRIPTION			REMARK
L006	1-412-537-31	INDUCTOR	100µH		
L007	1-412-537-31	INDUCTOR	100µH		
		<TRANSISTOR>			
Q101	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		<RESISTOR>			
R003	1-216-025-11	RES-CHIP	100	5%	1/10W
R006	1-260-316-51	CARBON	100	5%	1/2W
R007	1-216-025-11	RES-CHIP	100	5%	1/10W
R008	1-216-025-11	RES-CHIP	100	5%	1/10W
R010	1-216-025-11	RES-CHIP	100	5%	1/10W
R011	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R012	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R013	1-216-025-11	RES-CHIP	100	5%	1/10W
R014	1-260-316-51	CARBON	100	5%	1/2W
R015	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R016	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R017	1-216-025-11	RES-CHIP	100	5%	1/10W
R018	1-216-025-11	RES-CHIP	100	5%	1/10W
R019	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R020	1-216-025-11	RES-CHIP	100	5%	1/10W
R021	1-216-025-11	RES-CHIP	100	5%	1/10W
R022	1-216-295-11	SHORT	0		
R023	1-216-049-11	RES-CHIP	1K	5%	1/10W
R024	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R025	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R030	1-216-295-11	SHORT	0		
R031	1-216-077-91	RES-CHIP	15K	5%	1/10W
R032	1-260-316-51	CARBON	100	5%	1/2W
R033	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R034	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R038	1-216-017-91	RES-CHIP	47	5%	1/10W
R039	1-216-017-91	RES-CHIP	47	5%	1/10W
R051	1-216-121-11	RES-CHIP	1M	5%	1/10W
R052	1-259-884-11	CARBON	4.7M	5%	1/4W
R053	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R054	1-260-103-11	CARBON	2.2K	5%	1/2W
R055	1-216-295-11	SHORT	0		
R058	1-216-049-11	RES-CHIP	1K	5%	1/10W
R059	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R060	1-216-295-11	SHORT	0		
R064	1-260-127-11	CARBON	220K	5%	1/2W
R077	1-216-077-91	RES-CHIP	15K	5%	1/10W
R078	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W
R079	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R080	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R082	1-216-369-00	METAL OXIDE	1	5%	2W
R092	1-216-077-91	RES-CHIP	15K	5%	1/10W
R095	1-216-295-11	SHORT	0		
R097	1-216-295-11	SHORT	0		
R098	1-216-089-11	RES-CHIP	47K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R101	1-215-395-00	METAL	82	1%	1/4W
R104	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R106	1-249-436-11	CARBON	39K	5%	1/4W
R107	1-216-085-00	RES-CHIP	33K	5%	1/10W
R108	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R109	1-216-121-11	RES-CHIP	1M	5%	1/10W
R110	1-216-049-11	RES-CHIP	1K	5%	1/10W
R111	1-249-403-11	CARBON	68	5%	1/4W
R115	1-216-081-00	RES-CHIP	22K	5%	1/10W
R117	1-216-013-00	RES-CHIP	33	5%	1/10W
R118	1-216-009-91	RES-CHIP	22	5%	1/10W
R119	1-216-113-00	RES-CHIP	470K	5%	1/10W
R120	1-216-113-00	RES-CHIP	470K	5%	1/10W
R121	1-216-113-00	RES-CHIP	470K	5%	1/10W
R122	1-216-121-11	RES-CHIP	1M	5%	1/10W
R123	1-249-416-11	CARBON	820	5%	1/4W
R130	1-249-399-11	CARBON	33	5%	1/4W
R140	1-249-399-11	CARBON	33	5%	1/4W
R151	1-219-742-11	CARBON	47	5%	1/2W
R161	1-215-395-00	METAL	82	1%	1/4W
R163	1-216-025-11	RES-CHIP	100	5%	1/10W
R201	1-215-395-00	METAL	82	1%	1/4W
R202	1-216-041-00	RES-CHIP	470	5%	1/10W
R204	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R206	1-249-436-11	CARBON	39K	5%	1/4W
R207	1-216-085-00	RES-CHIP	33K	5%	1/10W
R208	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R209	1-216-121-11	RES-CHIP	1M	5%	1/10W
R210	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R211	1-249-404-00	CARBON	82	5%	1/4W
R215	1-216-081-00	RES-CHIP	22K	5%	1/10W
R217	1-216-013-00	RES-CHIP	33	5%	1/10W
R218	1-216-019-00	RES-CHIP	56	5%	1/10W
R219	1-216-113-00	RES-CHIP	470K	5%	1/10W
R220	1-216-113-00	RES-CHIP	470K	5%	1/10W
R221	1-216-113-00	RES-CHIP	470K	5%	1/10W
R222	1-216-121-11	RES-CHIP	1M	5%	1/10W
R223	1-249-416-11	CARBON	820	5%	1/4W
R230	1-249-399-11	CARBON	33	5%	1/4W
R240	1-249-399-11	CARBON	33	5%	1/4W
R251	1-219-742-11	CARBON	47	5%	1/2W
R261	1-215-395-00	METAL	82	1%	1/4W
R263	1-216-025-11	RES-CHIP	100	5%	1/10W
R301	1-215-395-00	METAL	82	1%	1/4W
R304	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R306	1-249-436-11	CARBON	39K	5%	1/4W
R307	1-216-085-00	RES-CHIP	33K	5%	1/10W
R308	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R309	1-216-121-11	RES-CHIP	1M	5%	1/10W
R310	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R311	1-249-403-11	CARBON	68	5%	1/4W
R315	1-216-081-00	RES-CHIP	22K	5%	1/10W
R317	1-216-013-00	RES-CHIP	33	5%	1/10W
R318	1-216-021-00	RES-CHIP	68	5%	1/10W
R319	1-216-113-00	RES-CHIP	470K	5%	1/10W
R320	1-216-113-00	RES-CHIP	470K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R321	1-216-113-00	RES-CHIP	470K	5%	1/10W
R322	1-216-121-11	RES-CHIP	1M	5%	1/10W
R323	1-249-416-11	CARBON	820	5%	1/4W
R330	1-249-399-11	CARBON	33	5%	1/4W
R340	1-249-399-11	CARBON	33	5%	1/4W
R351	1-219-742-11	CARBON	47	5%	1/2W
R361	1-215-395-00	METAL	82	1%	1/4W
R363	1-216-025-11	RES-CHIP	100	5%	1/10W
		<SPARK GAP>			
SG001	1-519-422-11	SPARK GAP			
SG002	1-576-354-21	SPARK GAP			
SG101	1-576-354-21	SPARK GAP			
SG201	1-576-354-21	SPARK GAP			
SG301	1-576-354-21	SPARK GAP			
		<CRYSTAL>			
X001	1-760-682-21	VIBRATOR, CRYSTAL (24.5 MHz)			

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DA BOARD, COMPLETE
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		<CAPACITOR>			
C1101	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1102	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1103	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1104	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1105	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1108	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1109	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1110	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1111	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1112	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1113	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1114	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C1115	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1116	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1117	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C1118	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1119	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1120	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C1121	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C1122	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1123	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1124	1-163-005-11	CERAMIC CHIP	470pF	10%	50V
C1125	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1126	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1127	1-125-838-11	CERAMIC CHIP	2.2µF	10%	6.3V
C1128	1-126-246-11	ELECT	220µF	20%	4V
C1129	1-163-007-11	CERAMIC CHIP	680pF	10%	50V
C1130	1-164-492-11	CERAMIC CHIP	0.15µF	10%	16V
C1131	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1132	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1133	1-126-246-11	ELECT	220µF	20%	4V
C1137	1-126-205-11	ELECT	47µF	20%	6.3V
C1138	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C1139	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1140	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
		<DIODE>			
D1104	8-719-027-76	DIODE 1SS357-TPH3			
D1105	8-719-067-40	ZENER DIODE STZ6.8N-T146			
D1106	8-719-067-40	ZENER DIODE STZ6.8N-T146			
D1107	8-719-067-40	ZENER DIODE STZ6.8N-T146			
		<FERRITE BEAD>			
FB1101	1-543-963-22	FERRITE			
		<IC>			
IC1101	8-759-697-78	IC CXD9563Q			
IC1102	8-759-701-01	IC NJM2904M			
		<RESISTOR>			
R1101	1-216-025-11	RES-CHIP	100	5%	1/10W
R1102	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1103	1-216-025-11	RES-CHIP	100	5%	1/10W
R1106	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R1108	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1109	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1110	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R1111	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R1112	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1113	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R1114	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1115	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R1116	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R1118	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R1119	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1122	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R1123	1-216-656-11	METAL CHIP	1.6K	0.5%	1/10W
R1124	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R1125	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R1126	1-216-642-11	METAL CHIP	430	0.5%	1/10W
R1127	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1128	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1129	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R1131	1-216-025-11	RES-CHIP	100	5%	1/10W
R1132	1-216-025-11	RES-CHIP	100	5%	1/10W
R1133	1-216-121-11	RES-CHIP	1M	5%	1/10W
R1134	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R1135	1-216-121-11	RES-CHIP	1M	5%	1/10W
R1136	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1137	1-218-758-11	METAL CHIP	180K	0.5%	1/10W

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1139	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R1141	1-216-025-11	RES-CHIP	100	5%	1/10W
R1142	1-216-295-11	SHORT	0		
		<COMPOSITION CIRCUIT BLOCK>			
RB1101	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1102	1-233-412-11	NETWORK, RESISTOR (CHIP)	1.0K		(3216)
RB1103	1-233-412-11	NETWORK, RESISTOR (CHIP)	1.0K		(3216)
RB1104	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1105	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1106	1-233-412-11	NETWORK, RESISTOR (CHIP)	1.0K		(3216)

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D BOARD, COMPLETE
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	3-710-578-01	COVER, VOLUME, 6 MOLD (RV901)			
	4-382-854-01	SCREW (3X8), P, SW (+) (D610, IC654, Q640, Q641, R510)			
	4-382-854-11	SCREW (3X10), P, SW (+) (D504, D652, D680, IC401, IC703, Q505, Q506, Q511, Q512, Q513, Q514, Q630, Q704, Q705, Q901, Q902, R909)			
*	7-322-065-48	RUBBER, SILICONE RTV (KE-3490)			(RV901)
	7-682-950-01	+PSW 3X12 (IC610)			
		<CAPACITOR>			
C401	1-128-528-11	ELECT	470µF	20%	25V
C402	1-137-401-11	MYLAR	0.22µF	10%	100V
C403	1-107-911-11	ELECT	220µF	20%	50V
C404	1-128-528-11	ELECT	470µF	20%	25V
C405	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C406	1-137-366-11	MYLAR	0.0022µF	5%	50V
C407	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C408	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C500	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C502	1-137-150-11	MYLAR	0.01µF	5%	50V
C503	1-130-495-00	MYLAR	0.1µF	5%	50V
C504	1-137-368-11	MYLAR	0.0047µF	5%	50V
C505	1-126-949-11	ELECT	220µF	20%	35V
C506	1-127-810-51	ELECT	22µF	20%	250V
C507	1-136-187-11	MYLAR	0.047µF	10%	250V
C508	1-137-718-11	FILM	4300pF	3%	1.8KV
C509	1-107-444-11	CERAMIC	100pF	5%	2KV
C510	1-136-684-51	MYLAR	0.0022µF	10%	100V
C511	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C512	1-163-005-11	CERAMIC CHIP	470pF	10%	50V
C513	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C514	1-137-368-11	MYLAR	0.0047µF	5%	50V
C515	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C516	1-126-934-11	ELECT	220µF	20%	16V
C517	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C519	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
C520	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C521	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C522	1-126-965-11	ELECT	22µF	20%	50V
C524	1-126-941-11	ELECT	470µF	20%	25V
C525	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C533	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C534	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C535	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C536	1-107-665-11	ELECT	0.47µF	20%	400V
C537	1-137-768-11	FILM	0.18µF	5%	400V
C538	1-107-651-11	ELECT	4.7µF	20%	250V
C539	1-115-356-11	FILM	1.2µF	5%	250V
C540	1-107-888-11	ELECT	47µF	20%	25V
C541	1-115-521-11	FILM	0.82µF	5%	250V
C542	1-164-346-11	CERAMIC CHIP	1µF		16V
C543	1-117-666-11	FILM	0.39µF	5%	250V
C544	1-164-005-11	CERAMIC CHIP	0.47µF		16V
C545	1-117-662-11	FILM	0.18µF	5%	250V
C546	1-164-222-11	CERAMIC CHIP	0.22µF		25V
C547	1-119-860-11	FILM	0.082µF	5%	250V
C548	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C549	1-131-985-21	FILM	0.033µF	5%	250V
C550	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C554	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C559	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C562	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C563	1-164-646-11	CERAMIC	2200pF	10%	500V
C564	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C568	1-130-495-00	MYLAR	0.1µF	5%	50V
C601 ⚠	1-107-533-51	MYLAR	1µF	20%	250V
C602 ⚠	1-104-708-51	MYLAR	0.47µF	20%	250V
C603 ⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C604 ⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C605 ⚠	1-113-926-91	CERAMIC	0.0047µF		250V
C606 ⚠	1-113-926-91	CERAMIC	0.0047µF		250V
C607	1-119-913-51	CERAMIC	2200pF	20%	250V
C610	1-137-673-11	ELECT	330µF	20%	450V
C611	1-117-227-11	MYLAR	1µF	10%	450V
C612	1-136-169-00	FILM	0.22µF	5%	50V
C613	1-126-967-11	ELECT	47µF	20%	50V
C614	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C629	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C630	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C631	1-104-665-11	ELECT	100µF	20%	25V
C632	1-126-961-11	ELECT	2.2µF	20%	50V
C635	1-163-005-11	CERAMIC CHIP	470pF	10%	50V
C636	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C640	1-126-964-11	ELECT	10µF	20%	50V
C641	1-107-792-11	CERAMIC	100pF	5%	1KV
C642	1-136-189-00	MYLAR	0.1µF	10%	250V
C643	1-107-792-11	CERAMIC	100pF	5%	1KV
C644	1-136-165-00	FILM	0.1µF	5%	50V
C645	1-136-479-11	FILM	0.001µF	2%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C646	1-126-961-11	ELECT	2.2µF	20%	50V
C647	1-126-963-11	ELECT	4.7µF	20%	50V
C648	1-126-967-11	ELECT	47µF	20%	50V
C649	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C650	1-107-656-11	ELECT	100µF	20%	250V
C652	1-128-563-11	ELECT	100µF	20%	100V
C654	1-126-943-11	ELECT	2200µF	20%	25V
C655	1-104-664-11	ELECT	47µF	20%	25V
C656	1-126-943-11	ELECT	2200µF	20%	25V
C657	1-104-664-11	ELECT	47µF	20%	25V
C658	1-137-725-21	FILM	8200pF	3%	800V
C667	1-107-909-11	ELECT	47µF	20%	16V
C680	1-115-747-51	ELECT	0.0068F	20%	10V
C681	1-107-889-11	ELECT	220µF	20%	10V
C682	1-137-368-11	MYLAR	0.0047µF	5%	50V
C683	1-115-706-11	ELECT	220µF	20%	6.3V
C686	1-115-706-11	ELECT	220µF	20%	6.3V
C687	1-130-495-00	MYLAR	0.1µF	5%	50V
C692	1-115-706-11	ELECT	220µF	20%	6.3V
C701	1-163-003-11	CERAMIC CHIP	330pF	10%	50V
C703	1-163-003-11	CERAMIC CHIP	330pF	10%	50V
C704	1-137-150-11	MYLAR	0.01µF	5%	50V
C705	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C706	1-137-150-11	MYLAR	0.01µF	5%	50V
C707	1-104-666-11	ELECT	220µF	20%	25V
C708	1-104-666-11	ELECT	220µF	20%	25V
C711	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C712	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C713	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C714	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C718	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C719	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C720	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C721	1-128-562-11	ELECT	47µF	20%	100V
C723	1-128-560-11	ELECT	22µF	20%	100V
C724	1-162-134-11	CERAMIC	470pF	10%	2KV
C726	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C727	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C730	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C734	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C736	1-126-967-11	ELECT	47µF	20%	50V
C737	1-126-967-11	ELECT	47µF	20%	50V
C738	1-136-169-00	FILM	0.22µF	5%	50V
C761	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C900	1-107-713-11	ELECT	4.7µF	20%	50V
C901	1-104-665-11	ELECT	100µF	20%	25V
C902	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C903	1-126-962-11	ELECT	3.3µF	20%	50V
C904	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C905	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C906	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C908	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C909	1-104-665-11	ELECT	100µF	20%	25V
C910	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C911	1-163-137-00	CERAMIC CHIP	680pF	5%	50V
C913	1-135-842-51	ELECT	47µF	20%	250V
C915	1-137-867-11	PP FILM			
C916	1-117-665-11	FILM	0.33µF	5%	250V
C918	1-117-626-11	FILM	2000pF	3%	1.2KV
C919	1-115-349-51	CERAMIC	0.01µF		2KV
C920	1-115-349-51	CERAMIC	0.01µF		2KV
C921	1-163-038-11	CERAMIC CHIP	0.1µF		25V
C923	1-126-959-11	ELECT	0.47µF	20%	50V
C925	1-137-372-11	MYLAR	0.022µF	5%	50V
C926	1-106-220-00	MYLAR	0.1µF	10%	100V
C927	1-102-228-00	CERAMIC	470pF	10%	500V
C929	1-126-963-11	ELECT	4.7µF	20%	50V
C930	1-136-169-00	FILM	0.22µF	5%	50V
C932	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C933	1-104-664-11	ELECT	47µF	20%	25V
C935	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C936	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C937	1-128-551-11	ELECT	22µF	20%	25V
C938	1-126-935-11	ELECT	470µF	20%	16V
C939	1-117-879-91	MYLAR	0.01µF	10%	250V

<CONNECTOR>

CN501*	1-793-239-11	PIN, CONNECTOR (PC BOARD)	6P
CN601*	1-580-689-11	PIN, CONNECTOR (PC BOARD)	4P
CN602*	1-691-960-11	PIN, CONNECTOR (PC BOARD)	3P
CN604	1-770-724-11	9P	
CN605*	1-564-507-11	PLUG, CONNECTOR	4P
CN701*	1-764-333-11	PLUG, CONNECTOR	10P
CN904	1-695-915-11	TAB (CONTACT)	
CN1101*	1-508-879-11	BASE POST	
CN1102	1-774-628-11	17P	
CN1103*	1-564-511-11	PLUG, CONNECTOR	8P

<DIODE>

D401	8-719-979-58	DIODE EGP10D
D405	8-719-109-85	ZENER DIODE RD5.1ESB2
D501	8-719-110-47	ZENER DIODE RD18ESB
D502	8-719-981-00	DIODE ERC81-004
D503	8-719-110-47	ZENER DIODE RD18ESB
D504	8-719-082-29	DIODE 5TUZ52C(SONY1)
D505	8-719-052-86	DIODE D2L40-TA
D506	8-719-062-89	ZENER DIODE HZS5B2-TE
D509	8-719-073-01	DIODE MA111-(K8).S0
D510	8-719-082-50	DIODE 11DF2N-TA2B2
D512	8-719-911-19	DIODE 1SS119-25
D516	8-719-052-90	DIODE D1NL40-TA
D517	8-719-082-50	DIODE 11DF2N-TA2B2
D518	8-719-050-84	DIODE RB441Q-40T-77
D519	8-719-069-54	ZENER DIODE UDZS-TE17-5.1B
D520	8-719-911-19	DIODE 1SS119-25
D521	8-719-911-19	DIODE 1SS119-25
D610 ⚠	8-719-510-53	DIODE D4SB60L
D613	8-719-304-63	DIODE RM11C
D631	8-719-063-73	DIODE D1NL20U-TR
D632	8-719-059-23	DIODE P6KE200AG23

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D633	8-719-069-63	DIODE ERB38-06V1	
D634	8-719-063-73	DIODE D1NL20U-TR	
D635	8-719-110-67	ZENER DIODE RD27ES-B2	
D641	8-719-069-63	DIODE ERB38-06V1	
D643	8-719-073-01	DIODE MA111-(K8).S0	
D644	8-719-073-01	DIODE MA111-(K8).S0	
D650	8-719-064-49	DIODE D4SBL40	
D651	8-719-063-74	DIODE D1NL20U-TR2	
D652	8-719-052-91	DIODE D4SBS4-F	
D680	8-719-510-41	DIODE D10SC9M	
D690	8-719-911-19	DIODE 1SS119-25	
D692	8-719-911-19	DIODE 1SS119-25	
D694	8-719-911-19	DIODE 1SS119-25	
D697	8-719-073-01	DIODE MA111-(K8).S0	
D701	8-719-911-19	DIODE 1SS119-25	
D702	8-719-911-19	DIODE 1SS119-25	
D703	8-719-911-19	DIODE 1SS119-25	
D901	8-719-073-01	DIODE MA111-(K8).S0	
D906	8-719-977-40	ZENER DIODE DTZ13B	
D907	8-719-052-86	DIODE D2L40-TA	
D909	8-719-110-47	ZENER DIODE RD18ESB	
D910	8-719-028-72	DIODE RGP02-17EL-6433	
D911	8-719-018-82	DIODE RGP02-20EL-6394	
D912	8-719-110-42	ZENER DIODE RD15ES-B3	
D914	8-719-970-83	DIODE HSS82-TJ	
D917	8-719-069-60	ZENER DIODE UDZS-TE17-9.1B	
D918	8-719-073-01	DIODE MA111-(K8).S0	
D919	8-719-069-54	ZENER DIODE UDZS-TE17-5.1B	
D920	8-719-977-28	ZENER DIODE DTZ10B	
D921	8-719-911-19	DIODE 1SS119-25	
D922	8-719-073-01	DIODE MA111-(K8).S0	
D923	8-719-073-01	DIODE MA111-(K8).S0	
		<FUSE>	
#1 F601	⚠1-576-233-11	FUSE (H.B.C) (6.3A/250V)	
		<FERRITE BEAD>	
FB501	1-410-397-21	FERRITE 1.1µH	
FB555	1-216-295-11	SHORT 0	
FB901	1-412-911-11	FERRITE 1.1µH	
FB902	1-543-963-22	FERRITE	
FB1000	1-414-231-22	INDUCTOR	
FB1002	1-216-295-11	SHORT 0	
FB1005	1-216-295-11	SHORT 0	
FB1007	1-216-295-11	SHORT 0	
		<FUSE HOLDER>	
FH601	1-533-223-11	HOLDER, FUSE (F601)	
FH602	1-533-223-11	HOLDER, FUSE (F601)	
		<IC>	
IC401	8-759-593-28	IC LA78040	
IC501	8-759-585-82	IC BA9759F-E2	
IC610	8-749-018-08	IC MZ1532	
IC620	8-759-670-30	IC MCZ3001D	
IC630	8-759-535-32	IC FA13842P	
IC640	8-749-018-07	IC SEB3-LF4	
IC652	8-759-669-10	IC BA3953T-V5	
IC654	8-759-701-79	IC NJM7812FA	
IC680	8-759-682-42	IC MM1431ATT	
IC701	8-759-822-38	IC LA6510	
IC702	8-749-018-54	IC STK391-120	
IC703	8-759-803-42	IC LA6500-FA	
IC901	8-759-585-81	IC BA9758FS-E2	
IC902	8-759-701-01	IC NJM2904M	
		<CHIP CONDUCTOR>	
JR001	1-216-295-11	SHORT 0	
JR002	1-216-296-91	SHORT 0	
JR003	1-216-296-91	SHORT 0	
JR004	1-216-296-91	SHORT 0	
JR006	1-216-296-91	SHORT 0	
JR007	1-216-295-11	SHORT 0	
JR008	1-216-296-91	SHORT 0	
JR009	1-216-295-11	SHORT 0	
JR012	1-216-296-91	SHORT 0	
JR013	1-216-295-11	SHORT 0	
JR014	1-216-296-91	SHORT 0	
JR015	1-216-295-11	SHORT 0	
JR016	1-216-296-91	SHORT 0	
JR017	1-216-295-11	SHORT 0	
JR018	1-216-295-11	SHORT 0	
JR019	1-216-296-91	SHORT 0	
JR022	1-216-296-91	SHORT 0	
JR901	1-216-295-11	SHORT 0	
		<COIL>	
L501	1-412-537-31	INDUCTOR 100µH	
L502	1-419-870-11	COIL, HORIZONTAL LINEARITY	
L504	1-406-675-11	INDUCTOR 4.7mH	
L505	1-406-675-11	INDUCTOR 4.7mH	
L506	1-406-673-11	INDUCTOR 2.2mH	
L508	1-412-525-31	INDUCTOR 10µH	
L509	1-419-868-11	COIL, HORIZONTAL CENTER	
L510	1-411-594-41	INDUCTOR 5mH	
#1 L610	⚠1-419-837-11	INDUCTOR 340µH	
L611	1-419-397-11	INDUCTOR 68µH	
L612	1-412-521-31	INDUCTOR 4.7µH	
L652	1-406-665-11	INDUCTOR 100µH	
L653	1-406-665-11	INDUCTOR 100µH	
L680	1-414-742-21	INDUCTOR 22µH	
L902	1-406-661-21	INDUCTOR 22µH	
L1001	1-412-911-11	FERRITE 1.1µH	
		<PHOTO COUPLER>	
PH610	8-749-018-06	IC TLP421F(D4-SONY)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
PH620	8-749-018-06	IC TLP421F(D4-SONY)	
PH630	8-749-018-06	IC TLP421F(D4-SONY)	
		<TRANSISTOR>	
Q501	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q502	8-729-049-86	TRANSISTOR 2PD602AR-115	
Q503	8-729-049-85	TRANSISTOR 2PB710AR-115	
Q504	8-729-043-53	TRANSISTOR IRFU110	
Q505	8-729-053-65	TRANSISTOR 2SC5682-CC	
Q506	8-729-050-13	TRANSISTOR 2SJ585LS-CC11	
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q508	8-729-049-86	TRANSISTOR 2PD602AR-115	
Q509	8-729-049-85	TRANSISTOR 2PB710AR-115	
Q510	8-729-140-96	TRANSISTOR 2SD774-34	
Q511	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q512	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q513	8-729-046-62	TRANSISTOR FS30KMJ-3-AZ	
Q514	8-729-053-82	TRANSISTOR FS10KMJ-3-AZ	
Q515	8-729-047-72	TRANSISTOR 2SK3155-01	
Q516	8-729-047-72	TRANSISTOR 2SK3155-01	
Q518	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q519	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q520	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q523	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q524	8-729-901-00	TRANSISTOR DTC124EK	
Q610	8-729-029-55	TRANSISTOR DTA143ZSA-TP	
Q611	8-729-029-96	TRANSISTOR DTC143XSA	
Q630	8-729-045-03	TRANSISTOR 2SK2647-01MR-F91	
Q640	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q641	8-729-052-29	TRANSISTOR 2SK2876-01MR-F122	
Q652	8-729-029-66	TRANSISTOR DTC114ESA	
Q701	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q702	8-729-178-43	TRANSISTOR 2SC2784	
Q703	8-729-204-91	TRANSISTOR 2SA1049-GR	
Q704	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q705	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q706	8-729-045-47	TRANSISTOR 2SC4620TV2Q	
Q707	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q901	8-729-035-54	TRANSISTOR 2SJ449	
Q902	8-729-053-42	TRANSISTOR FS5KM-18A-AT	
Q905	8-729-046-80	TRANSISTOR 2SC4634LS-CB11	
Q906	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q907	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R401	1-249-383-11	CARBON 1.5 5% 1/4W	
R402	1-215-867-00	METAL OXIDE 470 5% 1W	
R403	1-214-796-00	METAL 1.5 1% 1/2W	
R404	1-215-449-00	METAL 15K 1% 1/4W	
R405	1-214-796-00	METAL 1.5 1% 1/2W	
R406	1-215-451-00	METAL 18K 1% 1/4W	
R407	1-216-675-91	METAL CHIP 10K 0.5% 1/10W	
R408	1-216-097-11	RES-CHIP 100K 5% 1/10W	
R409	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R410	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R501	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R502	1-216-025-11	RES-CHIP 100 5% 1/10W	
R503	1-216-033-00	RES-CHIP 220 5% 1/10W	
R504	1-216-073-00	RES-CHIP 10K 5% 1/10W	
R505	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R506	1-249-393-11	CARBON 10 5% 1/4W	
R507	1-249-433-11	CARBON 22K 5% 1/4W	
R508	1-215-861-00	METAL OXIDE 47 5% 1W	
R509	1-249-381-11	CARBON 1 5% 1/4W	
R510	1-244-158-11	METAL 1.5 0.5% 10W	
R511	1-216-683-11	METAL CHIP 22K 0.5% 1/10W	
R512	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
R513	1-216-423-11	METAL OXIDE 27 5% 1W	
R514	1-249-397-11	CARBON 22 5% 1/4W	
R515	1-249-425-11	CARBON 4.7K 5% 1/4W	
R516	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R517	1-216-089-11	RES-CHIP 47K 5% 1/10W	
R518	1-216-033-00	RES-CHIP 220 5% 1/10W	
R519	1-216-037-00	RES-CHIP 330 5% 1/10W	
R520	1-216-033-00	RES-CHIP 220 5% 1/10W	
R521	1-247-807-31	CARBON 100 5% 1/4W	
R522	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R523	1-216-685-11	METAL CHIP 27K 0.5% 1/10W	
R524	1-216-663-11	METAL CHIP 3.3K 0.5% 1/10W	
R525	1-216-657-11	METAL CHIP 1.8K 0.5% 1/10W	
R526	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R527	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	
R528	1-215-453-00	METAL 22K 1% 1/4W	
R530	1-216-665-11	METAL CHIP 3.9K 0.5% 1/10W	
R531	1-216-663-11	METAL CHIP 3.3K 0.5% 1/10W	
R532	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R533	1-216-681-11	METAL CHIP 18K 0.5% 1/10W	
R534	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
R536	1-215-863-11	METAL OXIDE 100 5% 1W	
R537	1-216-075-00	RES-CHIP 12K 5% 1/10W	
R539	1-216-073-00	RES-CHIP 10K 5% 1/10W	
R541	1-216-089-11	RES-CHIP 47K 5% 1/10W	
R542	1-214-842-11	METAL 120 1% 1/2W	
R543	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R544	1-216-041-00	RES-CHIP 470 5% 1/10W	
R546	1-215-890-11	METAL OXIDE 470 5% 2W	
R547	1-215-373-31	METAL 10 1% 1/4W	
R548	1-260-318-71	CARBON 150 5% 1/2W	
R549	1-260-314-11	CARBON 68 5% 1/2W	
R550	1-247-903-00	CARBON 1M 5% 1/4W	
R552	1-249-438-11	CARBON 56K 5% 1/4W	
R553	1-249-437-11	CARBON 47K 5% 1/4W	
R555	1-249-437-11	CARBON 47K 5% 1/4W	
R557	1-249-437-11	CARBON 47K 5% 1/4W	
R559	1-249-437-11	CARBON 47K 5% 1/4W	
R561	1-249-437-11	CARBON 47K 5% 1/4W	
R563	1-216-025-11	RES-CHIP 100 5% 1/10W	
R564	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R565	1-216-025-11	RES-CHIP 100 5% 1/10W	
R566	1-216-025-11	RES-CHIP 100 5% 1/10W	

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

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Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R567	1-216-025-11	RES-CHIP	100	5%	1/10W
R568	1-216-025-11	RES-CHIP	100	5%	1/10W
R570	1-214-842-11	METAL	120	1%	1/2W
R571	1-214-842-11	METAL	120	1%	1/2W
R572	1-216-025-11	RES-CHIP	100	5%	1/10W
R573	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R574	1-216-049-11	RES-CHIP	1K	5%	1/10W
R575	1-216-041-00	RES-CHIP	470	5%	1/10W
R576	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R578	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R580	1-249-413-11	CARBON	470	5%	1/4W
R584	1-216-475-11	METAL OXIDE	120	5%	3W
R585	1-216-381-11	METAL OXIDE	0.22	5%	3W
R586	1-215-911-11	METAL OXIDE	100	5%	3W
R588	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R589	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R590	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R591	1-249-425-11	CARBON	4.7K	5%	1/4W
R592	1-249-425-11	CARBON	4.7K	5%	1/4W
R593	1-216-073-00	RES-CHIP	10K	5%	1/10W
R594	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R596	1-247-807-31	CARBON	100	5%	1/4W
R598	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R601 ⚠	1-219-510-91	CARBON	470K	5%	1/2W
R610	1-217-152-00	METAL	0.33	10%	2W
R611	1-217-153-00	METAL	0.47	10%	2W
R612	1-247-807-31	CARBON	100	5%	1/4W
R614	1-247-807-31	CARBON	100	5%	1/4W
R615	1-249-427-11	CARBON	6.8K	5%	1/4W
R617	1-216-073-00	RES-CHIP	10K	5%	1/10W
R618	1-216-049-11	RES-CHIP	1K	5%	1/10W
#1 R620 ⚠	1-202-933-61	FUSE	0.1	10%	1/2W
R629	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R630	1-249-381-11	CARBON	1	5%	1/4W
R631	1-216-369-00	METAL OXIDE	1	5%	2W
R632	1-216-081-00	RES-CHIP	22K	5%	1/10W
R633	1-249-406-11	CARBON	120	5%	1/4W
R634	1-249-417-11	CARBON	1K	5%	1/4W
R635	1-260-135-11	CARBON	1M	5%	1/2W
R636	1-260-135-11	CARBON	1M	5%	1/2W
R637	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R638	1-216-073-00	RES-CHIP	10K	5%	1/10W
R639	1-249-419-11	CARBON	1.5K	5%	1/4W
R640	1-249-420-11	CARBON	1.8K	5%	1/4W
R641	1-216-073-00	RES-CHIP	10K	5%	1/10W
R642	1-249-393-11	CARBON	10	5%	1/4W
R643	1-243-979-71	METAL OXIDE	0.1	5%	2W
R645	1-216-073-00	RES-CHIP	10K	5%	1/10W
R646	1-216-001-00	RES-CHIP	10	5%	1/10W
R647	1-219-512-11	CARBON	2.2M	5%	1/2W
R651	1-215-421-00	METAL	1K	1%	1/4W
R652	1-216-081-00	RES-CHIP	22K	5%	1/10W
R653	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R654	1-216-017-91	RES-CHIP	47	5%	1/10W
R655	1-216-049-11	RES-CHIP	1K	5%	1/10W
R656	1-216-025-11	RES-CHIP	100	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R660	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R661	1-216-295-11	SHORT	0		
R665	1-249-421-11	CARBON	2.2K	5%	1/4W
R670	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R671	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R675	1-219-512-11	CARBON	2.2M	5%	1/2W
R676	1-218-756-11	METAL CHIP	150K	0.5%	1/10W
R686	1-216-033-00	RES-CHIP	220	5%	1/10W
R687	1-216-081-00	RES-CHIP	22K	5%	1/10W
R691	1-243-985-91	METAL	33K	0.5%	1/4W
R692	1-243-985-91	METAL	33K	0.5%	1/4W
R693	1-243-985-91	METAL	33K	0.5%	1/4W
R694	1-243-984-91	METAL	30K	0.5%	1/4W
R696	1-260-092-11	CARBON	270	5%	1/2W
R698	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R699	1-216-295-11	SHORT	0		
R700	1-216-095-00	RES-CHIP	82K	5%	1/10W
R701	1-249-385-11	CARBON	2.2	5%	1/4W
R702	1-216-073-00	RES-CHIP	10K	5%	1/10W
R703	1-249-385-11	CARBON	2.2	5%	1/4W
R704	1-216-049-11	RES-CHIP	1K	5%	1/10W
R706	1-215-887-00	METAL OXIDE	150	5%	2W
R707	1-249-440-11	CARBON	82K	5%	1/4W
R709	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R710	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R711	1-216-674-11	METAL CHIP	9.1K	0.5%	1/10W
R712	1-249-425-11	CARBON	4.7K	5%	1/4W
R713	1-215-887-00	METAL OXIDE	150	5%	2W
R716	1-249-385-11	CARBON	2.2	5%	1/4W
R717	1-249-385-11	CARBON	2.2	5%	1/4W
R718	1-215-866-11	METAL OXIDE	330	5%	1W
R719	1-216-373-11	METAL OXIDE	2.2	5%	2W
R721	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R722	1-215-866-11	METAL OXIDE	330	5%	1W
R724	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R725	1-216-373-11	METAL OXIDE	2.2	5%	2W
R726	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R727	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R728	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R729	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R731	1-216-081-00	RES-CHIP	22K	5%	1/10W
R732	1-249-383-11	CARBON	1.5	5%	1/4W
R733	1-215-859-00	METAL OXIDE	22	5%	1W
R734	1-215-865-11	METAL OXIDE	220	5%	1W
R735	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R737	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R738	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R739	1-249-434-11	CARBON	27K	5%	1/4W
R740	1-216-089-11	RES-CHIP	47K	5%	1/10W
R741	1-216-049-11	RES-CHIP	1K	5%	1/10W
R742	1-216-668-11	METAL CHIP	5.1K	0.5%	1/10W
R743	1-216-037-00	RES-CHIP	330	5%	1/10W
R744	1-249-413-11	CARBON	470	5%	1/4W
R745	1-249-389-11	CARBON	4.7	5%	1/4W
R746	1-249-389-11	CARBON	4.7	5%	1/4W
R747	1-215-881-11	METAL OXIDE	15	5%	2W

CPD-G420

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The components identified by ⧓ in this manual have been carefully factory-selected for eachset in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R748	1-219-510-11	CARBON	470K	5%	1/2W
R749	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R753	1-249-393-11	CARBON	10	5%	1/4W
R754	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R755	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R758	1-249-385-11	CARBON	2.2	5%	1/4W
R759	1-249-385-11	CARBON	2.2	5%	1/4W
R760	1-216-093-91	RES-CHIP	68K	5%	1/10W
R901	1-216-097-11	RES-CHIP	100K	5%	1/10W
R902	1-216-089-11	RES-CHIP	47K	5%	1/10W
R903	1-218-758-11	METAL CHIP	180K	0.5%	1/10W
R904	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R905	1-216-049-11	RES-CHIP	1K	5%	1/10W
R907	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R908	1-249-429-11	CARBON	10K	5%	1/4W
R909	1-219-727-11	METAL	68	5%	10W
R911	1-249-401-11	CARBON	47	5%	1/4W
R915	1-249-397-11	CARBON	22	5%	1/4W
R916	1-249-401-11	CARBON	47	5%	1/4W
R917	1-249-385-11	CARBON	2.2	5%	1/4W
R918	1-214-935-00	METAL	820K	1%	1/2W
R919	1-216-073-00	RES-CHIP	10K	5%	1/10W
R920	1-216-693-11	METAL CHIP	56K	0.5%	1/10W
R921	1-249-425-11	CARBON	4.7K	5%	1/4W
R923	1-215-467-00	METAL	82K	1%	1/4W
R924	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R925	1-218-762-11	METAL CHIP	270K	0.5%	1/10W
R926	1-216-083-00	RES-CHIP	27K	5%	1/10W
R927	1-219-748-11	CARBON	4.7K	5%	1/2W
R928	1-220-825-11	CARBON	330K	5%	1/2W
R929	1-216-089-11	RES-CHIP	47K	5%	1/10W
R931	1-219-748-11	CARBON	4.7K	5%	1/2W
R932	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R933	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R934	1-260-300-11	CARBON	4.7	5%	1/2W
R935	1-215-433-00	METAL	3.3K	1%	1/4W
R936	1-219-398-51	METAL	2.2M	5%	1W
R937	1-216-049-11	RES-CHIP	1K	5%	1/10W
R938	1-216-111-00	RES-CHIP	390K	5%	1/10W
R939	1-216-095-00	RES-CHIP	82K	5%	1/10W
R940	1-216-109-00	RES-CHIP	330K	5%	1/10W
R941	1-219-621-91	METAL	22M	10%	1/4W
R942	1-216-121-11	RES-CHIP	1M	5%	1/10W
R943	1-216-097-11	RES-CHIP	100K	5%	1/10W
R944	1-216-049-11	RES-CHIP	1K	5%	1/10W
R945	1-216-025-11	RES-CHIP	100	5%	1/10W
R946	1-216-073-00	RES-CHIP	10K	5%	1/10W
R950	1-216-049-11	RES-CHIP	1K	5%	1/10W
R951	1-216-097-11	RES-CHIP	100K	5%	1/10W
R952	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R953	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R954	1-218-179-11	RES-CHIP	10M	5%	1/10W
R955	1-218-179-11	RES-CHIP	10M	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<VARIABLE RESISTOR>	
⧓ RV901	⚠1-241-767-21	RES, ADJ, CERMET 100K (HV ADJ)	
		<RELAY>	
#1 RY602	⚠1-755-318-11	RELAY, POWER	
#1 RY603	⚠1-755-067-21	RELAY	
		<SWITCH>	
S501	1-692-465-11	SWITCH, SLIDE (RASTER CENTER TAP SWITCH)	
#1 S601	⚠1-771-727-11	SWITCH, AC POWER PUSH (POWER)	
		<SPARK GAP>	
SG601	1-533-982-21	SPARK GAP	
SG901	1-517-499-21	SPARK GAP	
SG902	1-519-422-11	SPARK GAP	
SG903	1-519-422-11	SPARK GAP	
		<TRANSFORMER>	
T501	1-435-188-11	TRANSFORMER, FERRITE (HDT)	
T503	1-435-140-21	TRANSFORMER, FERRITE (LCT)	
T504	1-431-413-11	TRANSFORMER, FERRITE (HST)	
#1 T601	⚠1-429-180-11	TRANSFORMER, LINE FILTER	
#1 T620	⚠1-435-750-11	TRANSFORMER, CONVERTER (PIT)	
#1 T630	⚠1-435-751-11	TRANSFORMER, CONVERTER (SRT)	
T701	1-435-129-11	TRANSFORMER, FERRITE (DFT)	
#1 T901	⚠1-453-359-21	TRANSFORMER ASSY, FLYBACK (NX-4702/KM7M)	
T902	1-411-567-31	INDUCTOR 500µH	
		<THERMISTOR>	
TH401	1-807-970-11	THERMISTOR	
TH601	⚠1-803-546-11	THERMISTOR (NTH22D6R0QA)	
THP601	⚠1-803-540-11	THERMISTOR	
		<VARISTOR>	
VDR601	⚠1-803-918-51	VARISTOR (TNR14V621K660)	

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H1 BOARD, COMPLETE
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<CAPACITOR>

C1400	1-126-795-11	ELECT	10µF	20%	50V
C1401	1-126-786-11	ELECT	47µF	20%	16V
C1402	1-126-786-11	ELECT	47µF	20%	16V
C1498	1-130-495-00	MYLAR	0.1µF	5%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<CONNECTOR>			
CN1400*	1-564-525-11	PLUG, CONNECTOR	10P		
		<DIODE>			
D1400	8-719-056-13	DIODE SML79423C-TP15 (POWER)			
		<FERRITE BEAD>			
FB1401	1-412-911-31	FERRITE	1.1µH		
FB1402	1-412-911-31	FERRITE	1.1µH		
FB1403	1-412-911-31	FERRITE	1.1µH		
		<TRANSISTOR>			
Q1400	8-729-029-66	TRANSISTOR DTC114ESA			
Q1401	8-729-029-68	TRANSISTOR DTC114TSA			
Q1402	8-729-029-40	TRANSISTOR DTA124ESA			
		<RESISTOR>			
R1400	1-215-405-00	METAL	220	1%	1/4W
R1401	1-215-405-00	METAL	220	1%	1/4W
R1402	1-215-397-00	METAL	100	1%	1/4W
R1403	1-215-397-00	METAL	100	1%	1/4W
R1404	1-215-413-00	METAL	470	1%	1/4W
R1405	1-249-441-11	CARBON	100K	5%	1/4W
R1406	1-249-407-11	CARBON	150	5%	1/4W
R1407	1-249-409-11	CARBON	220	5%	1/4W
R1408	1-249-413-11	CARBON	470	5%	1/4W
R1409	1-249-441-11	CARBON	100K	5%	1/4W
R1421	1-215-445-00	METAL	10K	1%	1/4W
R1424	1-215-453-00	METAL	22K	1%	1/4W
		<SWITCH>			
S1400	1-762-196-21	SWITCH, TACT (MENU)			
S1401	1-762-196-21	SWITCH, TACT (PICTURE MODE)			
S1402	1-771-734-11	SWITCH, TACTILE (CONTROL/CONTRAST)			
S1403	1-571-427-11	SWITCH, SLIDE (INPUT1/INPUT2)			

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N BOARD, COMPLETE
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		<CAPACITOR>			
C1001	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1002	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1004	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1005	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1014	1-126-205-11	ELECT	47µF	20%	6.3V
C1015	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1016	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1017	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1018	1-163-220-11	CERAMIC CHIP	3pF	0.25pF	50V
C1019	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C1020	1-126-206-11	ELECT	100µF	20%	6.3V
C1021	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1022	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1023	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1027	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1028	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1029	1-109-982-11	CERAMIC CHIP	1µF	10%	10V
C1030	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
		<CONNECTOR>			
CN1003	1-564-521-11	PLUG, CONNECTOR	6P		
		<DIODE>			
D1001	8-719-073-01	DIODE MA111-(K8).S0			
		<FERRITE BEAD>			
FB1001	1-543-963-22	FERRITE			
FB1002	1-216-295-11	SHORT	0		
FB1003	1-216-295-11	SHORT	0		
FB1004	1-216-295-11	SHORT	0		
FB1005	1-216-295-11	SHORT	0		
FB1006	1-216-295-11	SHORT	0		
FB1007	1-216-295-11	SHORT	0		
		<IC>			
IC1001	8-759-826-97	IC TMP91PW18F-1A22(Z)			
IC1002	8-759-420-77	IC PST574CMT-T1			
IC1003	8-759-641-86	IC BR24C16F-E2			
		<TRANSISTOR>			
Q1001	8-729-029-06	TRANSISTOR DTC124EUA-T106			
		<RESISTOR>			
R1001	1-216-125-00	RES-CHIP	1.5M	5%	1/10W
R1003	1-216-025-11	RES-CHIP	100	5%	1/10W
R1004	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1005	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1006	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1008	1-216-025-11	RES-CHIP	100	5%	1/10W
R1009	1-216-025-11	RES-CHIP	100	5%	1/10W
R1010	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1011	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1012	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R1014	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1015	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1016	1-216-025-11	RES-CHIP	100	5%	1/10W
R1017	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1018	1-216-017-91	RES-CHIP	47	5%	1/10W
R1019	1-216-017-91	RES-CHIP	47	5%	1/10W
R1020	1-216-017-91	RES-CHIP	47	5%	1/10W
R1021	1-216-017-91	RES-CHIP	47	5%	1/10W
R1022	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1023	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1040	1-216-025-11	RES-CHIP	100	5%	1/10W
R1041	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1042	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1043	1-216-121-11	RES-CHIP	1M	5%	1/10W
R1044	1-216-121-11	RES-CHIP	1M	5%	1/10W
		<COMPOSITION CIRCUIT BLOCK>			
RB1001	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1002	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1003	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1004	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1005	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1006	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1007	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
RB1009	1-233-576-11	NETWORK, RESISTOR (CHIP)	100		
		<CRYSTAL>			
X1001	1-795-044-21	VIBRATOR, CRYSTAL (16.9344MHz)			

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US BOARD, COMPLETE

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		<CAPACITOR>			
C2601	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2602	1-126-964-11	ELECT	10µF	20%	50V
C2603	1-126-964-11	ELECT	10µF	20%	50V
C2604	1-126-964-11	ELECT	10µF	20%	50V
C2605	1-126-964-11	ELECT	10µF	20%	50V
C2606	1-126-934-11	ELECT	220µF	20%	10V
C2607	1-126-934-11	ELECT	220µF	20%	10V
C2608	1-126-934-11	ELECT	220µF	20%	10V
C2609	1-126-934-11	ELECT	220µF	20%	10V
C2610	1-104-664-11	ELECT	47µF	20%	25V
C2611	1-104-664-11	ELECT	47µF	20%	25V
C2612	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2901	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2902	1-104-664-11	ELECT	47µF	20%	25V
C2904	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2905	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C2906	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C2908	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C2909	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C2912	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C2914	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C2915	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C2916	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2917	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2918	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2923	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
		<CONNECTOR>			
CN2601*	1-564-519-11	PLUG, CONNECTOR	4P		
CN2901	1-794-989-11	CONNECTOR, USB (B)			
CN2902	1-794-990-11	CONNECTOR, USB (A)			
CN2903	1-794-990-11	CONNECTOR, USB (A)			
CN2904	1-794-990-11	CONNECTOR, USB (A)			
CN2905	1-794-990-11	CONNECTOR, USB (A)			
		<DIODE>			
D2601	8-719-069-55	ZENER DIODE UDZS-TE-17-5.6B			
D2604	8-719-911-19	DIODE 1SS119-25			
D2605	8-719-911-19	DIODE 1SS119-25			
D2606	8-719-911-19	DIODE 1SS119-25			
D2607	8-719-911-19	DIODE 1SS119-25			
D2902	8-719-422-12	ZENER DIODE MA8039			
D2903	8-719-422-12	ZENER DIODE MA8039			
D2904	8-719-069-55	ZENER DIODE UDZS-TE-17-5.6B			
D2905	8-719-069-55	ZENER DIODE UDZS-TE-17-5.6B			
D2906	8-719-069-55	ZENER DIODE UDZS-TE-17-5.6B			
D2907	8-719-069-55	ZENER DIODE UDZS-TE-17-5.6B			
D2908	8-719-422-12	ZENER DIODE MA8039			
D2909	8-719-422-12	ZENER DIODE MA8039			
D2910	8-719-422-12	ZENER DIODE MA8039			
D2911	8-719-422-12	ZENER DIODE MA8039			
D2912	8-719-422-12	ZENER DIODE MA8039			
D2913	8-719-422-12	ZENER DIODE MA8039			
D2914	8-719-422-12	ZENER DIODE MA8039			
D2915	8-719-422-12	ZENER DIODE MA8039			
		<FERRITE BEAD>			
FB2601	1-412-911-31	FERRITE	1.1µH		
FB2602	1-410-397-21	FERRITE	1.1µH		
FB2901	1-412-911-31	FERRITE	1.1µH		
FB2903	1-412-911-31	FERRITE	1.1µH		
FB2904	1-412-911-31	FERRITE	1.1µH		
FB2905	1-412-911-31	FERRITE	1.1µH		
FB2906	1-412-911-31	FERRITE	1.1µH		
FB2911	1-412-911-31	FERRITE	1.1µH		
FB2912	1-216-295-11	SHORT	0		
FB2913	1-216-295-11	SHORT	0		
FB2914	1-216-295-11	SHORT	0		
FB2915	1-216-295-11	SHORT	0		
FB2916	1-216-295-11	SHORT	0		

REF.NO.	PART NO.	DESCRIPTION			REMARK
FB2917	1-216-295-11	SHORT	0		
FB2918	1-216-295-11	SHORT	0		
FB2919	1-216-295-11	SHORT	0		
FB2924	1-216-295-11	SHORT	0		
FB2925	1-216-295-11	SHORT	0		
FB2936	1-414-766-22	INDUCTOR			
		<IC>			
IC2601	8-759-431-14	IC PQ3TZ53U			
IC2602	8-749-018-35	IC SLA3006M(LF874)			
IC2901	8-759-660-89	IC KC82C160SH			
IC2902	8-759-165-87	IC PST600J-T			
		<TRANSISTOR>			
Q2601	8-729-029-06	TRANSISTOR DTC124EUA-T106			
Q2602	8-729-029-06	TRANSISTOR DTC124EUA-T106			
Q2603	8-729-029-06	TRANSISTOR DTC124EUA-T106			
Q2604	8-729-029-06	TRANSISTOR DTC124EUA-T106			
		<RESISTOR>			
R2601	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2602	1-216-365-00	METAL OXIDE	0.47	5%	2W
R2603	1-216-365-00	METAL OXIDE	0.47	5%	2W
R2611	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2612	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2613	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2614	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2618	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2619	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2620	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2621	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2622	1-216-033-00	RES-CHIP	220	5%	1/10W
R2623	1-216-033-00	RES-CHIP	220	5%	1/10W
R2901	1-216-013-00	RES-CHIP	33	5%	1/10W
R2902	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2903	1-216-121-11	RES-CHIP	1M	5%	1/10W
R2904	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2905	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2906	1-216-022-00	RES-CHIP	75	5%	1/10W
R2907	1-216-039-00	RES-CHIP	390	5%	1/10W
R2908	1-216-073-00	RES-CHIP	10K	5%	1/10W
R2909	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2910	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R2915	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R2916	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2919	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2920	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2923	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2924	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2925	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2926	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2927	1-216-013-00	RES-CHIP	33	5%	1/10W
R2928	1-216-013-00	RES-CHIP	33	5%	1/10W
R2930	1-216-009-91	RES-CHIP	22	5%	1/10W
R2931	1-216-009-91	RES-CHIP	22	5%	1/10W
R2932	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2933	1-216-013-00	RES-CHIP	33	5%	1/10W
R2934	1-216-013-00	RES-CHIP	33	5%	1/10W
R2935	1-216-013-00	RES-CHIP	33	5%	1/10W
R2941	1-216-013-00	RES-CHIP	33	5%	1/10W
R2942	1-216-013-00	RES-CHIP	33	5%	1/10W
		<CRYSTAL>			
X2901	1-767-925-21	VIBRATOR, CRYSTAL (12MHz)			

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